

Phoenix Project Foundation



Senator Barack Obama
UNITED STATES SENATE
241 Russell Senate Office Building
Washington, DC 20510

Subject: Presidential Policy considerations regarding the Phoenix Project plan to shift to a wind-powered solar hydrogen economy by 2020.

Dear Senator Obama,

I was the democratic opponent against John McCain in the 1984 election for the 1st Congressional House seat in Arizona, and the primary focus of my campaign was to make the public aware of how to shift from fossil and nuclear fuels, which are exponentially diminishing and highly polluting, to a solar hydrogen economy with wartime-speed. Such a "transition of substance" would have profound implications for the economy, the environment, national security and U.S. foreign policy.

After the 1984 campaign, I continued to work as an energy and environmental analyst, and in 1981 was invited to become an Advisory Board Member to the *International Association for Hydrogen Energy*, which is made up of hundreds of PhD.-level chemists and engineers from over 80 countries. My company, Sustainable Partners, was the original developer of the San Juan Mesa Wind project in New Mexico, which is now one of the largest wind projects in the U.S, and Edison Capital purchased the controlling interest to the project when it was completed in 2005. My book, *The Phoenix Project: Shifting from Oil to Hydrogen*, was originally published in 1990 and it was updated and published again in 2000, and a video documentary of the book is available on the PhoenixProjectFoundation.US website.

The Phoenix Project

As I suspect you know, many of the most serious economic and environmental problems are related to our use of fossil and nuclear fuels. Although there is no shortage of experts who have characterized the problems of climate change, chemical pollution and more people competing for fewer and fewer fossil and nuclear fuels, thus far, virtually no one in political office has offered a specific plan to fundamentally resolve these exponentially worsening problems in a practical and economic way, while there is still time to make a difference.

The Earth is now warmer that it has been for thousands of years and record droughts and heat waves are already damaging large agricultural areas of the U.S., from California to the Midwest, including major corn crops in South Dakota. According to professor Steven Chu, a Nobel Prize winner in physics who is now Director of the Lawrence Livermore National Laboratory and co-chair of the global InterAcademy Council (IAC), which is seeking to develop sustainable energy technologies and resources, *climate changes are now known to be occurring much faster than predicted just a few years ago, and a number recent scientific studies have also documented that the methane hydrates in the oceans and the permafrost in vast areas of the Arctic regions of Siberia, Alaska and Canada is now starting to rapidly melt. This could release 100 times more carbon into the atmosphere than is now generated from the burning of fossil fuels.* This is why James Hanson, NASA's chief climate scientist and a number of his colleagues at Columbia University and the National Academy of Sciences have warned that the world is rapidly approaching a "tipping point" of no return.

The obvious solution is to phase out the combustion of fossil fuels by 2020 if irreversible damage to the earth's climate and food production systems is to be avoided, and as a practical matter, the Phoenix Project is the only plan to do exactly that by having companies like GE and GM mass-produce 5 million 2 MW wind-powered hydrogen production systems and the necessary conversion kits to modify all of the existing vehicles and power plants to use the hydrogen made from the wind and water. From a technology perspective, these systems could have been mass-produced in the 1920s. Although Al Gore has written that the internal combustion engine needs to be phased out, it is not the engine that is the problem -- but the fuel. The exhaust coming out of a hydrogen-fueled engine is pure hydrogen and oxygen, and solar-sourced hydrogen is the only non-carbon and pollution-free fuel that can permanently displace the use of all fossil and nuclear fuels worldwide. This is because the hydrogen is inexhaustible if it is made from the sun, wind and water. It is worth noting that photosynthetic green plants have been successfully extracting hydrogen from water with solar energy on a global scale for the past 3.5 billion years.

Such a reindustrialization effort would transform the U.S. from being the world's largest energy importer to one of the world's largest energy exporters, which would have a profound impact on the economy, the environment, national security and global problems of increasing numbers of people competing for exponentially fewer resources. Millions of jobs would be created in the process, and the multi-trillion capital investment could be recovered in less than 6 years with equipment that will last for many decades, providing a renewable rate of return on the investment. Given that no new technology is needed, the real obstacles to this "transition of substance" are not technical or economic -- *but political*.

Hydrogen Production Board

Just as FDR created the War Production Board in World War II to retool every major American industry in 12 months, a similar Hydrogen Production Board is now needed. Wind systems are very similar to an automobile from a manufacturing perspective. Over 17 million vehicles are sold in the U.S. annually, and roughly 6 million of those vehicles are still made in the U.S. Less than 5 million two megawatt wind systems would displace not just imported oil, but all fossil and nuclear fuels in the U.S., and many of the wind systems could also be deployed at sea as "Windships," which are floating structures developed by a brilliant naval architect, William Heronemus, that would be deployed so far out at sea they would not be visible from the shore. Moreover, such systems would provide a vast sanctuary on the continental shelves for the remaining fish and other marine organisms that are in the final stages of being hunted into extinction. Scientific studies have documented that over 90% of the global ocean ecosystems are already lost, and the remaining fish are so contaminated from mercury from coal plants they are unfit to eat.

John Lorenzen & American Ingenuity

At the end of the Phoenix Project video, after the credits, there is an ABC News "person of the week" report by Peter Jennings with John Lorenzen, a Midwest farmer who in the 1930's had to quit school in the sixth grade because his father died and he had to help his mother on the family farm. Before electricity lines were available, Lorenzen generated his own electricity from wind machines he built himself from other scrap components in his barnyard workshop. When the oil crisis hit in the 1970s, Lorenzen responded by inserting the electrodes from the wind machine into a barrel of water to separate the water into hydrogen and oxygen, and then he -- with his sixth grade education and no one's help -- modified his pickup truck to use the hydrogen, as well as gasoline with the flip of a switch. What John Lorenzen accomplished on a small scale on his small family farm is exactly what is needed on a large scale for the U.S and the rest of the world.

Coal, Nuclear Power & Ethanol

Virtually all of the presidential candidates in the U.S. are promoting ethanol, nuclear power and so-called "clean" coal as solutions, when in fact these technologies create far more problems than they solve. In addition to global warming and climate change, the use of carbon-based fuels also directly causes many of the most serious health problems worldwide, including cancer, heart attacks and strokes. The 250-year supply of coal in the U.S. would be consumed in less than 25 years if it were to be gasified into hydrogen on a scale to displace other fossil and nuclear fuels, and there is the harsh reality that ancient mountain ecosystems are now routinely destroyed for a few days worth of coal, which when burned emits hundreds of tons of mercury annually. A *Time* magazine article on mercury (Mercury Rising, September 11, 2006), documented that this highly toxic metal is not just in seafood, but is showing up everywhere, including in polar bears in the Arctic. And mercury is much more toxic than most people think. It not only causes serious damage to the brains of unborn infants and young children, which is no doubt a primary factor in the explosion of autism in children, but hundreds of millions of adults and other animals worldwide.

Like oil and coal, uranium is also a rapidly diminishing resource. Moreover, according to the NRC, every reactor in the U.S. is now suffering from serious levels of stress corrosion in the primary reactor cores -- making them ticking time-bombs -- and the nuclear wastes have been leaking and out of control for decades. Radioactive wastes are invisible, but that does not make them clean or safe. Indeed, they will be causing genetic mutation, disease and death for eons. In the case of depleted uranium (U-238), which is being used in U.S. weapons in Iraq, its half-life of 4.5 billion years (which is the approximate estimate of the age of the earth) means it will be deadly for well over 50 billion years. Moreover, when a weapon with depleted uranium explodes, the pulverized depleted uranium oxides (DUO) have been shown to travel in the wind to Europe over 2,500 miles away in less than 10 days. This is an obvious concern when you realize that depleted uranium explosives are being detonated regularly at DOD's Yuma test site. According to Leuren Moret, an international radiation specialist, since 1991, the U.S. has released the radioactive atomicity equivalent of at least 400,000 Nagasaki bombs into the global atmosphere. That is 10 times the amount released during atmospheric testing, which was the equivalent of 40,000 Hiroshima bombs.

Although ethanol has received most of the attention in the media and investment community, according to the National Academy of Sciences, even if all of the corn in the U.S. was used to produce ethanol, it would only displace 12% of the gasoline now used, and a page one story in *The New York Times* (January 19, 2008) documented that even the relatively small amounts of ethanol and other biofuels now being produced are already having a devastating impact on food prices worldwide, which is now adversely impacting several billion desperately poor people. Moreover, ethanol is not renewable because it depletes the soil 18 times faster than it can recover, and it typically requires more energy from fossil fuels to make ethanol from corn than the ethanol will generate when it is used as a fuel. In addition, ethanol still produces significant levels of carbon emissions as well as the toxic emissions of acetaldehyde and other carcinogenic aldehydes that are actually increased when compared to using gasoline as fuel.

Hydrogen made from the wind and water, by contrast, emits only pure water vapor as its combustion byproduct, which means if vehicles were fueled with hydrogen, urban areas would have crystal clear air even in rush hour traffic. It is also important to note that while it takes just over 50 kilowatts of electricity and 2 gallons of water to make an equivalent gallon of gasoline in the form of liquid hydrogen, it takes 18 gallons of water to make a gallon of gasoline from oil, and over 12,000 gallons of water are needed to make a gallon of ethanol from corn.

Making hydrogen fuel from the wind and water
is the "Silver Bullet" that can permanently
displace fossil & nuclear fuels worldwide

Although hydrogen can be made from water from any source of electricity, the cost of the hydrogen is directly impacted by the cost of electricity, and from a practical standpoint, wind systems now produce electricity for less cost than any other solar energy technology or even new fossil fuel or nuclear systems. In spite of this, however, wind systems currently generate less than one percent of the current energy demand in the U.S. This is because the winds are intermittent and inherently unpredictable in nature; they often blow at night when the power is not needed. In addition, there is a lack of transmission space on the electrical grid systems nationwide for any new power plant projects. These obstacles, however, are eliminated if hydrogen is made from the wind and water.

Unlike electricity, hydrogen can be stored and delivered to national and international markets by cryogenic tanker trucks, ships or underground pipelines that can also be engineered to transmit electricity as well as the hydrogen. Moreover, hydrogen made from the wind and water is a carbon free combustion fuel that is inexhaustible, which is why it is indeed a "silver bullet" solution that can permanently displace the use of fossil and nuclear fuels worldwide. The remaining oil and other fossil fuels can then be used as critical chemical feedstocks for the production of fertilizer, pesticides, plastics, medicines and food (i.e., it now takes ten calories of fossil fuels to make one calorie of food).

Once it is known that pollution-free hydrogen can be made from the wind and water for less cost than gasoline and other hydrocarbon fuels, every existing vehicle can be modified to use hydrogen as well as gasoline or ethanol with the flip of a switch. Several thousand vehicles were modified in this way in Germany and England in the 1930's, and BMW has been working on the same principal for the past 25 years, only using liquid hydrogen, which most closely resembles gasoline from a perspective of performance, fuel storage volume, weight and vehicle range. The Defense Department should initiate this transition with all of its vehicles, which will then be able to generate pure water from the engine exhaust. Mass-production is a key to reducing system costs, and given the exponential consumption of the remaining fossil fuel and uranium resources, energy costs will continue to sharply increase in the future. This is already impacting every product produced, *including wind systems*, which is why the longer this capital intensive transition to a renewable hydrogen economy is delayed, the more expensive it will be.

I hope it will be possible to work with you and your staff to help initiate this "transition of substance," which will provide "sustainable prosperity without pollution" for the USA and the rest of the world, while there is still time to make a difference.

Sincerely,



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Significant Insights from Harry Braun

- Exponential growth and the Exponential Time of 11:59 (i.e., if one does not understand the nature of the Exponential Age in which we live, one cannot possibly understand why we are heading for both technological “utopia” of molecular medicine that will eliminate aging and disease and and/or an ecological “oblivion” of mass-starvation and extinction. The way to avoid the oblivion scenario is to shift from fossil and nuclear fuels to wind-powered hydrogen production systems by 2020.
- Ethanol, biofuels, coal and nuclear power options can never displace fossil fuels; they waste both time and money and worsen the environmental problems. Nuclear wastes have been leaking and out of control since the 1950s, and wastes such as depleted uranium will be generating genetic mutations, disease and death for over 4.5 billion years.
- Our government is contaminating our own People: How the exponential growth of autism is directly related to mercury contamination from coal plants, and according to the Red Cross, in addition to mercury, over 250 other toxic chemicals are now found in the U.S. mother’s womb.
- The Fair Accounting Act: A proposed constitutional amendment that will factor in the massive environmental, healthcare, social and military costs of using fossil and nuclear fuels, which will make hydrogen made from the wind and water the least expensive fuel.
- How to avoid the death of global ocean ecosystems from pollution, trawling and overfishing.
- Photobiology: Why natural sunshine’s is critical for human health and the infection control of microbial MRSA “superbugs.”
- Providing educational excellence for all Americans by organizing the most gifted instructors and documentary production and animation groups (NOVA, Frontline, History Channel, etc.) to produce internet/DVD productions on every phase of major technical subjects. This would solve the fundamental problem in education, which is that few primary or secondary teachers are trained to teach technical subjects at all -- much less in a creative and inspiring way. Such programs would allow the poorest inner city or rural school children to have access to the very best instructors and animators and would allow each student to progress at their own individual speed.
- Free market enthusiasts have caused the decline and fall of the American Economy by forcing American workers to compete with child laborers in foreign countries who earn less than 15 cents an hour.
- A non-profit universal healthcare system is critical so medical professionals will not “operate” on commission.
- Prior to being sworn in as Vice President, Cheney asked the Joint Chiefs for background information on only one country: Iraq. Cheney had a “fever” for the Iraq war because he spent 30 years privatizing the military so that his company (Halliburton) would have secret no-bid, cost-plus contracts that were worth billions of dollars – much of it is cash. Such contracts forced taxpayers to pay “privatized” corporate security guards over \$1,200 a day, compared to military police personnel who typically earn less than \$60 a day. And if the war goes badly, Halliburton and the other corporate contractors make even more money.
- The Orwellian Nature of U.S. Foreign Policy, which talks about supporting democracy, but for the past 50 years has supported undemocratic regimes all over the world, in countries such as Saudi Arabia, Kuwait, Egypt, Iran, Vietnam, Chile, Indonesia, the Congo, the Philippines, Pakistan, and Iraq – to name a few.
- Saddam was Made in the USA: *The New York Times* on March 14, 2003, provides a riveting insight into the secret Iraqi atrocities that were secretly organized and financed by the CIA during the Kennedy administration. These activities were part of a “regime change” effort in Iraq in 1963 that put Saddam Hussein’s Baath Party into power. According to the U.S. Senate Committee on Intelligence, the CIA provided lists of hundreds of suspected leftists to the Baathists who then systematically murdered them. Many of the people killed were Iraq’s educated elite, including doctors, lawyers, scientists and other professionals. Britain and Israel supported the coup, while France and Germany opposed the action.



Harry W. Braun III
Technical Analyst, Author, & Principal Investigator

Harry W. Braun III has been working as an energy and environmental analyst for the past 35 years. He is the founder, principal investigator and Chairman of the Phoenix Project Foundation (PhoenixProjectFoundation.US), which is a non-profit, scientific educational organization that is focused on educating the general public about the critical interrelationships of exponential growth, energy, the economy, and the environment, as well as the origin of life, protein evolution, photobiology, molecular biology and U.S. foreign policy.

Harry is the author of numerous technical papers, as well as *The Phoenix Project: Shifting from Oil to Hydrogen*, a 360-page book that provides a scientific overview of the origin of matter and life in the known universe, how the “big bang” created hydrogen atoms, which gravity condensed into the stars, which then emitted the electromagnetic spectra that served as the spark for the origin and evolution of life on the Earth. The book also provides an overview of how the U.S. and other countries can rapidly shift from non-renewable fossil and nuclear fuels to renewable solar hydrogen production systems, which will resolve many of the most serious economic and environmental problems. The book reviews both the positive and negative aspects of exponential growth, which explains why humanity is on the threshold of both a nanotechnology utopia and an ecological oblivion. It is why we on *Spaceship Earth* are all like passengers aboard the *Titanic*, and there is only a limited amount of time left to “change course.” Although hydrogen is often mentioned as the “Holy Grail” of all energy sources, Harry Braun is the only technical analyst who has provided a specific plan for how this “transition of substance” can happen by 2020 by mass-producing wind and other solar powered hydrogen production systems, and modifying every *existing* vehicle, appliance and power plant to use hydrogen fuel.

Harry is also Chairman of Sustainable Partners LLC (SustainablePartners.com), a systems integration firm that is involved in a number of renewable energy development projects, including a \$180 million wind farm project in New Mexico. Harry is also Chairman of the Phoenix Project Political Action Committee (PhoenixProjectPac.US), which is focused on the political aspects of helping to organize Hydrogen Hearings in the U.S. Congress, which will be a prerequisite for the passage of Fair Accounting Act and Photobiology legislation that Harry has proposed in his book. The Fair Accounting Act legislation is the “trigger mechanism” for shifting to the solar hydrogen economy because it will provide the financial incentives for oil and other energy companies to rapidly become solar hydrogen companies, with an energy resource that will provide a renewable rate of return because it is both pollution-free and inexhaustible. The Photobiology legislation is intended to establish specific guidelines for the lighting industry with respect manufacturing general purposing lighting that will simulate the spectral wavelengths of the natural electromagnetic radiation that is found in sunlight.

Harry received a Bachelors degree from Arizona State University in 1971. His undergraduate work was in history and general science, while his graduate work focused on evolutionary biology and anthropology. His post graduate research has been in the areas of energy technologies and resources, photobiology, molecular biology and protein evolution. Harry has been an Advisory Board Member of the International Association for Hydrogen Energy (iahe.org) since 1981. This international peer-review professional society, which is comparable to the American Medical Association, is composed of hundreds Ph.D.-level scientists, chemists and engineers from over 85 countries. Harry ran for Congress in 1984 against John McCain, and was an independent presidential candidate in 2004 (please refer to the BraunforPresident.US website to review his campaign platform).