

# **A Real Energy Strategy for America**

**by Jonathan Moseley**



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## Shale Oil

If shallow talk could solve America's energy crisis, politicians in Washington would have all the answers. But Americans are still carrying a crushing burden while little changes. Fortunately, there are many real solutions available for the U.S. economy even if the politicians don't seem to know it.

America's dependence on foreign oil is more than a threat to our economy. It has become a threat to America's [national security](#). American money is being funneled to America's enemies around the world and is strengthening our enemies while weakening America.

The Mid-West hides the largest untapped oil reserve in the world — estimated at 1 to 2 **TRILLION** barrels of oil trapped inside shale (rock). This could be more than 8 times Saudi Arabia's proven oil reserves of 261 billion barrels. In fact, an article in *The Denver Post* estimated this to be more than all the other oil reserves on the planet earth.

If only we could discover how to extract this oil from its shale prison economically and with environmental safety, America might have the largest single source of oil in the world. So, why isn't the U.S. running on home-grown U.S. oil? There are four reasons – all false.

Official Washington decided a long time ago that extracting oil from shale is too expensive. However, oil was trading for as little \$19 per barrel at the time. Shale oil becomes competitive when prices stay consistently above \$40 per barrel. In recent years, oil has risen from \$19 per barrel to over \$130 per barrel. It is now high time to unleash this vast resource.

The technology to extract usable oil from shale deposits has been proven. Shale oil currently supplies about 90% of the electricity and 76% of the [total energy for Estonia](#), in Eastern Europe, on the Baltic Sea. An oil shale demonstration plant in Queensland, [Australia](#) produced 700,000 barrels of oil between 2001 and 2003.

Early reports dating to the Carter Administration incorrectly claimed that the 'retorting' process would require large amounts of energy and water. Repetition of this false information in government studies has discouraged the immediate use of shale oil.

The Unocal commercial demonstration plant project in the [Colorado](#) Piceance Creek Basin *actually produced more water than it consumed*, as former Paraho Corporation head Larry Lukens found from talking with Unocal's engineers. Colorado oil shale contains, on average, 2-5% by weight of water. That water is liberated from the rock during the 'retorting' process. Unocal actually had to construct evaporation ponds to get rid of all the excess water generated.

Similarly, the waste rock, still containing some oil residue, becomes a fuel in its own right. So the process actually produces its own energy. Larry Lukens estimates that a 100,000 barrel a day plant would actually produce enough *surplus* energy to generate 500 megawatts of electrical power which can be *exported* to other uses or nearby cities. Once jump-started, the shale oil extraction process actually feeds itself. After all, it is ***oil*** we are extracting...

The fourth obstacle is the popcorn myth. Environmental opponents claim that disposing of the left-over gravel will be a problem. However, rock does not expand. Instead, when rock is ground into smaller sizes, air pockets are introduced. The solution is to compact the gravel debris back into place with heavy machinery. The gravel is also good for building roads.

It is time to take the lessons from these demonstration projects and build much-more efficient retorting plants to harness America's vast shale oil reserves now that oil is trading at \$120 per barrel and up. This should be given a crash-program status as the highest priority, like landing a

man on the moon and the Manhattan Project. The only real problem is the lack of political will to truly achieve energy independence.

Progress on shale oil could be stimulated by (a) private business, (b) a consortium of State governments for States containing shale oil deposits, (c) [Congress](#), or (d) the President through leadership of the bully pulpit and through action in the Executive Federal Departments. Any Presidential or Congressional candidate could also call attention to this opportunity by issuing a John F. Kennedy style challenge to the nation.

## Hybrid Cars

Hybrid car technology has the potential to cut America's total consumption of [gasoline](#) by 30% within as little as 3 – 5 years. Hybrid cars, generally speaking, can get double the miles per gallon of a comparable old-style car. Although early hybrids started with Toyota and Honda, US automobile factories can and should convert to 100% American-built cars using these techniques. If half of America's vehicles were replaced by American-built hybrids getting double the gas mileage, US oil consumption would fall by roughly 30%. (Note that this is not a mini-car...but the same size car with the same strength, safety, and sturdiness).

Hybrid cars (and soon buses) use the same type of power train as a diesel-electric locomotive: A diesel engine generates electricity, which then powers the train. However, more importantly, hybrid vehicles also recapture energy. A lot of fuel is used by cars stopping and starting. In a hybrid, the brakes are actually electric generators, which recapture energy while slowing down the car. Thus, there is much higher efficiency, as less energy is lost. Hybrids also minimize wasted fuel when the engine is only idling by shutting off the gasoline engine.

The result is that hybrids use roughly half as much gasoline as the same size regular automobile. However, these are *not* necessarily small cars. Ford has been selling a hybrid SUV for more than three years – the Ford Escape. Saturn now has a hybrid SUV, the Saturn Vue Hybrid. Mercury now sells the Mariner Hybrid SUV. Toyota sells the very popular Toyota Highlander SUV in a hybrid version. All of these rugged hybrid SUV's are available in four-wheel drive.

The University of Delaware has been researching a hybrid version of massive city buses for more than three years. The stop-and-go routine of enormous city buses is perfect for the hybrid energy-recapture [innovation](#).

Imagine within 3 years cutting America's use of oil by 30%. But this won't happen if the transition to hybrid vehicles is too slow. Yet it is entirely within our grasp if we were to replace at least half of America's vehicles with hybrid vehicles.

*The biggest problem with buying a hybrid car is the long waiting list of eager would-be buyers. Hybrids fly out the door of car dealerships as fast as the factories can make them. (Much as this author loves Rush Limbaugh, Rush has inaccurately claimed that hybrids don't sell. Quite the contrary.) Despite myths, hybrid cars do not require any charging. These have nothing to do with electric cars. They run on ordinary gasoline.*

Furthermore, new products always start out at high price, and then drop in price as quantities expand and the technology matures. Computer [laser printers](#) started out costing as much (then) as a small economy car (\$5,000 in the mid 1980's). Now, you can buy one for \$200 to \$250. The same has been seen with laptops, VCR's, DVD players, you name it.

In the same way, large-scale adoption of hybrid vehicles will lead to economies of scale and falling, more-competitive prices for hybrid cars compared to older standard cars. Therefore, expanding the deployment of hybrid cars will bring down the price, accelerating the trend.

But there is a problem: [Detroit](#) did not invent the hybrid. As a result, a lot of corporate careers and egos are invested in coming up with some other, purely American innovation, no matter how unrealistic, while much of Detroit tries hard to ignore the obvious solution right in front of us. Most of the hype about hydrogen fuel cell cars seems to be driven by a desire to studiously pretend hybrids don't exist.

Hydrogen cars are years away. No source of hydrogen fuel exists other than creating hydrogen by using other sources of energy. (If anyone asks you to invest in a hydrogen mine, promptly leave.)

There are no hydrogen fuel stations anywhere. Yet, hybrids have been driving on American roads for almost a decade now. Hybrids work. They work now.

President Bush's Energy Plan way back in 2001 proposed \$4 billion in tax credits for buyers of hybrid cars. Bush's fiscal year 2006 budget provided \$3,400 in tax credits for consumers who buy fuel efficient alternative-fuel or hybrid cars.

Curiously, Bush is given no [credit](#) for these actions by the mainstream media or liberal politicians. And because the media does not want to acknowledge Bush's contribution, the public is mostly unaware of these tax credits. The lack of publicity means that purchasers are not motivated by tax credits *that they do not know about*.

However, the key obstacle to rapid replacement of the nation's automobile fleet with more efficient-hybrids is manufacturing capacity. There are waiting lists to buy hybrids. Rapid expansion of factories or conversion of factories to build hybrids requires a lot of capital.

[Congress](#) could establish capital investment loans through the Department of Energy for the conversion of old factories to build hybrids. In the 1980's the Federal Government provided \$5 billion in loans to keep Chrysler from falling into bankruptcy. That was controversial. This will be controversial, too. But if we can loan \$5 billion to a then-failing company, we can certainly loan money into a proven success that can benefit the entire country by reducing oil consumption and lowering gasoline prices for everyone.

Also, international patent law recognizes "compulsory licensing" in which the use of a patent is taken when needed in the national interest. Hybrid technology can be put to use, paying a fair royalty to the inventors, without any obstacles.

Congress needs to move forward on several fronts:

- Congress needs to continue and greatly expand tax credits and rebates to encourage the transition of America's automobile fleet to more fuel-efficient hybrid cars.
- State governments can also enact State-level tax rebates and incentives.
- Public Service Announcements (PSA's) by the media are needed to make people aware of President Bush's tax credits for buying hybrid cars.
- Funding of research into improved battery technology, and hybrid buses and trucks is needed.

Finally, the U.S. Government actually purchases vast numbers of automobiles and other motor vehicles. Congress should empower and direct the General Services Administration to convert all new purchases of government cars and vehicles to hybrid technology (or natural gas). In some cases, the special requirements of automobiles needed may require putting out specifications and waiting for the switch-over until industry is ready to supply new types of hybrid vehicles that meet all specifications. But the process should begin. And many government cars could immediately be switched over to hybrid vehicles.

## Hybrid Cars Stir Passions

Quite a stir followed the previous article on hybrid car technology in [The New Media Journal](#). The strong reaction among conservatives indicates the widespread confusion over hybrid cars, and why discussion is valuable. A follow-up to these discussions is especially appropriate because most of the strong reaction reflects false assumptions and misinformation about hybrids.

First, for years, much of our energy policy has involved liberals wanting the government to force ill-fitting solutions on unwilling Americans. As a result, conservatives tend to over-react. Conservatives are now overly-sensitive and simply assume that any new proposal is going to involve government choosing something for them. Simply offering a new alternative in the marketplace causes many conservatives to recoil in apprehension from past excesses by liberal zealots.

On the contrary, [innovation](#) in the private sector is inherently conservative and American. Offering new products that are better than older products is the very heart and soul of private enterprise and the core of what conservatives believe. A better car that uses less gas is a modern day example of "Build a better mousetrap and they will beat a path to your door."

Any new type of car must be offered to consumers based on their voluntary choice. Nothing about hybrid cars involves anyone telling you what kind of car you can drive. Some people believe they can find examples of non-hybrid cars that also get great gas mileage (or diesel mileage). Great! Those people should buy and drive whatever they find best for them. If one can drive some other efficient car, why would anyone want to discourage that? However, the reactions show that there is great confusion over hybrid cars, limiting people's ability to make an informed choice.

A great many confuse hybrid cars with electric cars plugged in to the wall. Hybrids are a completely different animal. Confusing hybrids with electric cars, many raise objections that apply only to electric cars. Hybrids do not use any electricity from the power grid. They run exclusively on [gasoline](#).

Many people apparently think that "hybrid" means that a hybrid car is simultaneously a purely electric car and also a traditional car, requiring all the mechanisms of both. Comments reflect the incorrect idea that a hybrid switches between running like a normal car to running like an electric. Comments then suggest that maintaining such a complicated car would be expensive.

Actually, a hybrid car is simpler and easier to maintain. Like enormously powerful diesel-electric locomotives, a hybrid uses only an electric drive. There is only one drive system, not two. The wheels are powered either by the gasoline engine generating electricity or by electricity stored in the battery from the gas engine. The engine only runs when more electricity is needed. But the drive system does not care whether the power is coming from the gas engine, from the battery, or both together under a heavy load. Energy is fed to the same, single drive system from two different possible sources (or both together when extra kick is needed).

The fact that the engine is completely turned off at stop lights and when cruising is a fundamental change that saves gasoline. Many questioned how the gas engine in a hybrid can be any more efficient than a traditional gas engine. Simply put, an engine that is not running at all uses less gasoline. The engine kicks off whenever it has stored up enough electricity in the battery. Therefore, the engine is using no gas at all some of the time.

When current cars are idling at stoplights or simply maintaining speed, they are burning more fuel than really necessary. Not all of the energy is being put to use. The engine is turning over even if its power is not actually being fully exploited. In a hybrid, electricity is generated until the battery is full, and then the engine switches off.

Similarly, a hybrid is not an electric car, but a gasoline-electric hybrid. Therefore, the massive batteries needed for an electric car have no relevance in a hybrid. Whenever the battery needs more electricity, the gas engine kicks on. The function of the battery in a hybrid is merely to smooth out the peaks and valleys to maximize efficiency, not to hold a long-term charge. A hybrid does not involve the kind of massive battery complexes that people talk about with electric cars, which must hold a charge for hundreds of miles from one charge. Going long distances is what the gas engine is for.

Also, it is widely misunderstood how current cars (including diesels) waste energy stopping and starting. When a driver hits the brakes, forward motion is stopped by the friction of the brake pads. Energy is completely wasted, converted into heat inside the brakes. But in a hybrid, the brakes are electric generators. Forward motion is converted back into electricity by these “electric brakes,” and recaptured. This is another fundamental change that saves energy.

Most observers seem to not give any thought to how much energy is burned up every time they hit the brakes. All the energy that is used speeding up from a stop is then thrown away again when the car’s brakes are engaged. The brakes consume all the energy that was invested earlier. The fundamental innovation of hybrid cars is recapturing much this energy rather than wasting it.

On a more practical note, most of the reaction to hybrids focuses on price, not only the total price of the car but concerns about the replacement cost of the battery and other components. However, all new products start out very expensive, but prices fall dramatically as production quantities increase. When [laser printers](#) were first introduced, they cost \$5000. Now, the office supply stores practically give them away.

It is always thus. A new product manufactured in relatively low quantities is always going to start out expensive... and then fall dramatically in price as quantities increase and manufacturers gain experience, streamlining and improving production methods. So, the fact that the first few years of hybrid cars start out higher than traditional cars should not surprise us. We have seen this movie before. The price of computers has dropped as power has increased. We know how this movie ends. Prices will drop with economies of scale and increasing quantity in production.

Obviously, if the reader does not want to be among the early adopters, and instead wait for prices to fall, more power to you. This author suggests always buying the second or third wave of any new product. Let someone else (who just loves new things) test out the first version for you. Simply put... don’t worry about it. Prices will come down. Just wait.

Finally, American factories should be building hybrid cars here in the U.S., greatly expanding capacity. We should be buying American-built hybrid cars from American factories. When existing manufacturers cannot meet demand, well-recognized “compulsory licensing” in international patent law would allow the U.S.A. to meet its energy needs, with fair royalties.

## Natural Gas Fueling Your Car

The United States and North America overall enjoy vast reserves of natural gas. Natural gas does not require reliance on imported foreign oil. Meanwhile, local city buses have already been running on natural gas for many years. There is no doubt about this technology for natural gas vehicles.

Why use natural gas? Natural gas is also in demand as a fuel. First, running a car on compressed natural gas, or CNG, costs about **one-third** as much as a gasoline car on an average-per-gallon equivalent basis, according to [Natural Gas Vehicles for America](#). Real sale prices reported by [USA Today](#) suggest the cost is actually **two-thirds** of gas equivalent.

Second, a major reason for the high cost of oil for U.S. consumers is the dramatic slide of the U.S. dollar. As the dollar has fallen by more than 30% in international exchange markets, it takes more dollars to buy oil – even at the same market conditions. Using natural gas from inside the U.S. avoids unfavorable currency conversions with a weaker dollar. Thus, using natural gas may directly lower net costs overall by keeping transactions within the dollar economy.

Third, U.S. consumers are funding hostile regimes and terrorism by buying oil from foreign sources. Not only is this dangerous, but it results in enormous costs for military responses. Fourth, foreign control over oil allows market prices to be manipulated by unfriendly governments. Reducing use of gasoline will reduce oil demand and give the U.S. more negotiating strength with foreign suppliers and strengthen our hand in foreign policy. Fifth, America needs even a temporary solution to give us time to develop longer-term solutions. Simply taking the heat off the oil markets can buy us time. Sixth, natural gas is the cleanest-burning fuel and will improve air quality, particularly in areas suffering from air pollution.

According to a report by the [Congressional Research Service](#), roughly half of all the natural gas produced in the world in the 1990's came from North America. Only a quarter came from the Middle East. The United States has the [6th largest](#) proven reserves of natural gas in the world.

Meanwhile, we can run cars, vehicles, and trucks on natural gas. There are currently about 130,000 vehicles running on natural gas in the U.S.A. right now. For example, the Los Angeles County Metropolitan Transportation Authority ordered its first 200 natural gas powered city buses in 2003, and bought 96 more in 2006. The 320 horse power Metro Liners are 20 feet longer than a standard transit bus and seat 57 passengers. The 6 cylinder, 8.9 liter CNG engine delivers 30% more power than the diesel engines in conventional transit buses.

Cars, also, can run on natural gas. Honda is selling the 4-door natural gas Civic GX on a trial basis in California and New York. The "Smart car" also runs on natural gas, but muddies the waters because it is only a mini-car. There are 1,500 natural gas filling stations in the U.S.

Therefore:

1) Congress should order a replacement of the nation's entire fleet of U.S. Post Office mail delivery trucks used for local routes with natural gas powered vehicles, by directing the General Services Administration and U.S. Postal Service to begin retiring traditional and diesel powered trucks. (Note that stop and start local "city" travel is actually the most energy-intensive, less efficient than highway travel. So this application is a good match.)

2) Congress should also provide funding through the Department of Transportation for municipalities to replace remaining diesel powered buses with clean natural gas buses. State and local governments can also implement this solution directly.

3) Congress should also fund research into natural gas powered trucks (tractor-trailers). The soaring cost of diesel is financially killing the trucking freight companies and independent truckers. If CNG can power city buses in stop-and-start traffic, it should be able to power even more-massive freight trucks.

4) Private cars can also run on natural gas, particularly for city use. Congress should enact increased tax credits and rebates for purchasers of natural gas powered cars like the Smart Car and the Honda Civic GX.. George Bush's energy plan passed in 2005 already provided \$2 billion in tax credits for purchasers of hybrid cars and other alternative powered cars.

However, Americans must always remain free to make their own choices. One of the reasons why energy issues have become major controversies, instead of producing real solutions, is that liberals can't resist using government coercion and power to force ill-fitting solutions upon the public.

Meanwhile, one of the key challenges for deploying natural gas powered vehicles is an infrastructure of filling stations. To adopt any new fuel, analysts worry that we must create a whole new network of fuel stations everywhere, as we now have gas stations.

Not so! Walk into any Wal-Mart, K-Mart, sporting goods store, or outdoor store, and head for the camping supplies. You will see the solution sitting right there on the shelves. Coleman™ camping stoves and camping lanterns have been using gas tanks, sold off retail store shelves, for many decades.

Natural gas is stored and transported in pressurized tanks. Therefore, if large canisters or small tanks were standardized, natural gas tanks could be sold off the shelf, as a product in any convenience store, supermarket, or existing gasoline station in the nation. Every retail store in America can become a fuel depot for a nation-wide network simply by selling natural gas canisters or tanks along with other products.

A car driver could simply swing by a 7-11 or grocery store, buy a gallon of milk, and then also buy a small tank or large canister of natural gas. The driver could then simply screw a hose onto the new tank, and turn in the old, empty tank for a deposit. (An unattended vending machine would even be possible, working 24 hours a day, although certainly large and unlike any vending machine familiar today.)

Every retail store in America can form the necessary network for supplying natural gas powered cars by selling pre-filled tanks or canisters as a product. Now, of course, this assumes that – just like canisters used routinely now for Coleman™ camping stoves and camping lanterns – these canisters would be strong enough to be entirely safe for handling and storage.

To help achieve this goal, Congress and/or the Department of Energy could establish by regulation a standardized type of canister and connection. Ideally, the canisters would be designed so that a full supply of fuel for a vehicle would involve perhaps 4 canisters consumed in series. This would allow a driver to replace only one empty canister at a time, without waiting for the vehicle to be completely dry. This would also make it more convenient to have extra canisters on hand. A driver checking his fuel gauge in the morning could grab an extra canister from the garage on his way to work.

## Give Our Oil to China

Some might call it criminal. Imagine if a Presidential candidate like John McCain or Barack Obama proposed giving North America's oil to communist [China](#). It would be the end of their career in politics. Americans would be furious. And yet that is exactly what our Congress has been doing now for several years.

The U.S. government is forbidding drilling for oil in the Gulf of Mexico and off the Eastern seaboard on the Continental Shelf. Meanwhile, China is preparing to tap into the same oil pockets with [Cuba's](#) cooperation. China will actually be able to pump several oil pockets in the Gulf dry while American companies are forbidden from drilling in the same areas.

America's dependence on foreign oil is a constant topic of talk inside official Washington and in the mainstream media. Trouble is, talk is about all we get...in terms of any solutions. But, in fact, Congress is actively causing much of America's problems with energy.

Liberals talk about alternative energy sources... yet have no workable ideas. Nearly 40 years of seeking alternative energy sources have failed to produce anything that can replace oil. Tax breaks and large [government](#) research grants have added to enormous private investment into 'alternative fuels' since the 1970's. Yet liberals talk as if this is a new idea that has never been tried. We've tried. Forty years of research have not revealed any magic solution.

So how long should we listen to the same, tired rhetoric? It seems that Democrats expect the U.S.A. to run on granola. The next time a politician calls for developing 'alternative energy' instead of drilling for oil, should we say "The Emperor has no clothes?" (There are many clever ways to make oil last much, much longer and go farther, but not to completely replace it.)

A great deal has already been said about the need for Congress to allow drilling in a very, very tiny portion of Alaskan National Wildlife Refuge in Alaska and in the Gulf of [Mexico](#). If you imagine ANWR to be the size of a football field, the area where drilling for oil is being proposed would be the size of a folded-over newspaper. And even within that small zone, the actual drilling sites would be a few pin pricks so small they would be invisible on that scale. With modern technology, extraction of oil can be clean and safe. (Remember that oil companies want to sell the oil. They don't want even a drop of the precious commodity to spill.)

It seems that the Left has forgotten that *oil is a part of nature*. Oil is a naturally-occurring substance, created millions of years before the first human ever walked the Earth. Humans did not create the oil. Mother Earth did. Whether you believe in abiotic (non-organic) oil or the dinosaur theory, oil deposits have been part of nature for millions of years.

In fact, undersea oil is actually seen *leaking out of the sea bed*. Left in place, oil can spontaneously escape, float, and drift around the ocean floor. (On land, oil is heavy. But in the ocean, oil floats.) Removing the oil from the sea bed actually prevents it from leaking out in this way spontaneously to pollute the oceans. Drilling actually protects the environment.

However, right now, China is preparing to drill for oil only 45 miles from the [Florida](#) Keys under a joint venture with Cuba. This is going to happen whether U.S. oil companies are allowed to drill for oil in the Gulf of Mexico or not. So whom do we think will be more careful about the environmental conditions off our nation's shores? China? Or U.S. oil companies?

U.S. oil companies will be much more respectful of America's shores and resources than will Communist China. As a condition of allowing such offshore drilling, Congress could require oil companies to post extremely large "bonds" which will be forfeited if there is any environmental incident. The companies could [finance](#) independent environmental monitoring.

Communist governments are known for their contempt for people as well as the environment. Environmental disasters are an all-too-common result of communist bureaucracies. How much more will China cut corners and behave in sloppy ways on the other side of the world from their own land and people? How much will China care about Florida's environment?

China may be able to find the best spots to drill, sit on those, and permanently block U.S. access to the oil. Because of the geology of oil reserves, there are only a few ideal places where an oil well can reach the oil. That is because the oil pokes up near the surface in only a few places, with the bulk of the oil buried much, much deeper under the sea floor. Therefore, if China parks oil wells in those key spots, U.S. oil companies might never be able to extract that oil right off our shores.

Also, this will mean that the communist government in Beijing would control oil resources in North America. Along with Hugo Chavez in Venezuela, China could dictate foreign policy to Washington. China's drilling 45 miles from Florida shores is possible because President Jimmy Carter in 1977 gave Cuba an "Exclusive Economic Zone" extending from Cuba's western tip to the north, virtually to Key West, Florida. Communist China is now partnering with communist Cuba.

Florida Democrats foolishly complain that off-shore oil wells would threaten Florida's tourist industry, ignoring the absolute certainty that high gasoline prices will cut off the flow of families vacationing in Florida. Some people may mistakenly assume that oil platforms could be visible from the beach. Not true. The horizon allows one to see only about 20 miles out into the ocean. China will be drilling 45 miles from the edge of the Florida Keys. U.S. oil companies would be drilling much farther out in the Gulf of Mexico, 100 to 200 miles away or more. No one will even know that those oil wells are out there.

Congress needs to act immediately to allow U.S. oil companies – not China – to extract that oil...and fast. This is one more reason why the energy situation of the United States of America has become a matter of national security.

## Repeal Clinton's Give-Away to Indonesia

One powerful reason that Americans now face an energy crisis needs to be told: It is *former President Bill Clinton, and other Democrats*: As President, Clinton placed millions of acres of American land and sea bed off-limits to exploration to obtain energy resources, with the help of liberal Democrats. America is forbidden by law from using American oil, American natural gas, and American clean-burning coal...America is dependent upon foreign oil and other energy partly because Democrats made our situation much worse.

On September 18, 1996, Bill Clinton appeared at the Grand Canyon and unilaterally proclaimed 1.9 million acres of Utah a new national monument — the Grand Staircase-Escalante National Monument. Clinton made unusual use of the 1906 Antiquities Act, although his action did not comply with that Act. Clinton failed to give public notice, hold public hearings as required by law, or consult with State governments. The area containing the coal is ordinary barren desert with no scenic vistas, having no unusual value to qualify as a 'monument.'

However, there is indeed one special thing unique about this land. And there is something incredibly suspicious about Clinton's action. These 1.9 million acres include the largest deposit of super-clean-burning coal on the planet. The Kaiporowitz coal field holds approximately 62 billion tons of low sulfur (clean) coal. Sen. Orrin Hatch (R-Utah) called this area the "Saudi Arabia of coal," because of its enormous coal reserves.

Bill Clinton deprived the United States of America of the cleanest-burning coal in existence. This high-compliance coal emits virtually no pollution, and exceeds the standards of the Clean Air Act.

In reality, Clinton granted a near-monopoly over clean-burning coal to Indonesian billionaire businessman John Riady — head of the now-infamous Lippo Group. The world's other major source of this coal is on the Indonesian island of Kalamantan, owned by the Red Chinese army and the Lippo Group.

Riady illegally donated large amounts of money to the Clinton-Gore campaign in 1992 and 1996. James Riady made about 20 visits to the White House after Clinton was elected in 1992. He met privately with the president three times.

And then — while facing re-election and needing campaign funds — Clinton took America's super-clean coal off the world's market. Sidelining America's high-compliance coal caused Indonesia's coal reserves to suddenly become very valuable.

The Clinton Administration Environmental Protection Agency had just issued stricter requirements for power plants in 22 eastern states. The coal Clinton froze off the market satisfied these new, higher standards, as did the Indonesian coal. As a result, U.S. electric companies are now forced to import Lippo Group coal from Indonesia.

Next, Attorney General Janet Reno's Justice Department cut a sweetheart deal with Riady allowing him to avoid jail time. On January 11, 2001, nine days before the Clintons left office, James Tjahaja Riady agreed to pay \$8.6 million in criminal fines and pled guilty to a felony charge of conspiring to unlawfully launder foreign corporate funds through 'straw' campaign contributors in violation of Federal election law. His LippoBank California also pled guilty to 86 misdemeanor counts for making illegal foreign campaign contributions.

Thus, America's huge reserves of the cleanest type of coal in the world were frozen out of the world's markets. John Riady now has a near monopoly on the world's cleanest coal. The Riady family and the Lippo Group got vastly richer. The Clinton-Gore campaign got illegal campaign donations at a critical period, and won re-election.

But what did the American people get? Rolling electricity black-outs in California a few years back and an energy crisis today.

Similarly, Clinton signed proclamations establishing the Vermilion Cliffs National Monument between the Colorado River and the Arizona-Utah line. This region contains major deposits of uranium needed for nuclear power. However, these 293,000 acres are now off-limits to mining. So, again, Clinton locked out significant energy resources of the country.

Democrats in Congress also passed a moratorium 25 years ago against drilling for oil on the continental shelf off the coast of California and the Eastern Seaboard, and in the Gulf of Mexico. Possible sites for exploration would be on the continental shelf off of Virginia, Georgia, and South Carolina, as well as Florida. (Note that people can only see to the horizon 20 miles away. Oil wells would be more than a hundred miles from shore – far out of sight.)

Environmentalists forget that oil was created millions of years ago as part of nature. Oil was not created by humans, but by Nature. Furthermore, oil companies don't want to lose a single precious drop of oil they can sell at high prices.

Congress needs to immediately repeal these designations by modifying the Antiquities Act of 1906, which allowed Clinton to unilaterally sign proclamations designating lands as "monuments" off limits to all reasonable uses. Clinton's abusive and improper mis-uses of the law need to be repealed, allowing the U.S. to burn the cleanest types of coal available for electricity...instead of using oil. Congress needs to lift the moratorium against using domestic U.S. oil from the continental shelf and Gulf of Mexico.

## Ethanol, Bio-Diesel & Bio-Mass

### Bio-Diesel...The Country Western Way

Could country singer Willie Nelson teach Washington how to reduce America's dependency on foreign oil? Action movie star Chuck Norris is currently lending his own weight to try to kick-box Washington into allowing drilling for oil inside U.S. territory. Chuck Norris is promoting American oil in preference to sending money to unfriendly countries overseas. Similarly, for years Willie Nelson has been lending his name to promoting the use of bio-diesel fuel for trucks from farm crops and agricultural scrap.

For decades, America's farmers have struggled to survive economically, particularly on smaller farms. Now, for the first time in many decades, farmers are facing a chance to actually make some money and prosper by creating bio-diesel and ethanol.

The [Bio-Willie Company](#) of Dallas, Texas advertises that it is "reduce[ing] America's dependence on foreign oil" and that "BioWillie® locations [are] growing every month!" It all began in 2004 with [Carl's Corner Truckstop](#) in Carl's Corner, Texas, when the average price for diesel fuel was only \$1.79 per gallon. Nelson, using his song "On the Road Again," is personally promoting the effort, with a schedule of appearances on his website.

Is bio-diesel an alternative to drilling for oil? Of course not! It is absurd to think America can side-step the use of the oil reserves Nature has given us. Ethanol has gotten a bad name among conservatives because environmentalists promote a fantasy that America does not really need oil. Ethanol and bio-diesel cannot become excuses for failing to use the oil available in Nature. People did not create the oil. Mother Earth did.

But bio-diesel can make America's homegrown oil last longer and go farther, reduce the money we send to hostile governments internationally, and help America's farms all at the same time. American consumers are financing military buildups and terrorism around the world every time they fill their tank...and Americans are mad about it and want it fixed.

Skeptics might consider: Where did oil come from? The traditional view is that crude oil is biomass converted under high pressure and heat. Without a doubt, coal is produced from plant life. So...the sun causes plants to grow. The plants are converted into oil or coal. Our cars run on the outcome.

It appears that most energy on Earth is based on a sun → agriculture → energy conversion process – including petroleum. The gasoline in your tank started with the sun's energy. Dinosaurs may have eaten the plants first. But the original source of the energy is the sun causing plants to grow. So, clearly ethanol and bio-diesel can provide fuel.

### Bio-Diesel Is Superior to Ethanol

Bio-diesel is far superior to ethanol. Ethanol extends ordinary gasoline for standard cars, while Bio-diesel extends diesel fuel for diesel-powered trucks and cars.

However, unlike ethanol, Bio-diesel can be created from agricultural scrap and crops that have no other value. Therefore, growing diesel fuel does not compete with food. Furthermore, diesel fuel is far more expensive than gasoline right now. Anything that can supply diesel fuel will help our nation's struggling truckers.

In September 2006, a report from the [U.S. Department of Energy](#) found that using a B20 biodiesel blend like Nelson's reduces life-cycle petroleum consumption by 19%, reduces life-cycle CO2 emissions by 16%, reduces hydrocarbon emissions by 20%, and significantly reduces toxic emissions and PM emissions.

Truck stops selling bio-diesel are found mainly in the Mid-West and are beginning to feed major transportation corridors throughout the country. A [map](#) from the National Biodiesel Board shows current locations.

Congress, through the U.S. Department of Energy, could help stimulate and finance the construction of a very large number of bio-diesel plants around the country, with loans (to be repaid at a profit) or loan guarantees.

### **Ethanol Competing with Food Crops**

By contrast, the picture with ethanol is clouded. Many question the efficiency and economy of ethanol as a fuel supplement. Ethanol is made mainly from corn, which is also in demand for human consumption. Food prices have risen. Some farmers have stopped growing food, because they can make so much more money with ethanol production.

But we forget, the U.S. Government artificially restricts the amount of farmland that farmers can deploy. Taxpayers pay farmers *not* to grow food. Restricting the supply of food and other crops was intended to prop up the price struggling farmers could charge consumers.

Ethanol increases the cost of food only because the government won't let farmers plant enough crops. Without the artificial quotas, farmers would simply expand the number of acres being planted to meet the increased demand.

Congress must repeal or suspend all agricultural quotas and restrictions. Farmers will harness America's vast agricultural potential.

Also, the conversion process for creating ethanol is not efficient enough. As long as there is the possibility of growing our own fuel, a "Manhattan Project"/land-a-man-on-the-moon crash research project should be launched to improve the process for conversion of crops.

Finally, other forms of biomass can also be converted into charcoal and "fuel gas." As championed by 'The Oil Drum,' this doesn't require sophisticated equipment. The equipment is simple, rugged and cheap. The process takes biomass and compressed, heated air. The results include:

- 1) Hot medium-BTU "fuel gas." The fuel gas can be used for generating electricity instead of using oil or coal. Cars that run on the fuel gas are being developed.
- 2) Charcoal, amounting to as much as 30% of the dry weight of the input biomass. The charcoal can be used for a variety of purposes, including again generating electricity.

Note that this electricity can be used to produce hydrogen to run hydrogen fuel cell automobiles. The charcoal can also be used as fuel to convert crops to ethanol.

## Some Long-Term Solutions

One of the major issues with America's energy picture is the question of whether there will be energy for the long-term. Other than those who believe the creation of oil is an "abiotic" (non-organic) natural process in the Earth, experts, politicians, and commentators point out that the use of oil, natural gas, coal, and the like is at best a temporary source of energy. Whether we have 100 years or 400 years left, mankind must find a permanent solution, or face. Humanity currently runs mainly on non-renewable energy resources.

New inventions and innovations will be needed, such as nuclear fusion (the power that fuels the sun, not to be confused with standard nuclear power). While many inventions and innovations will be unforeseen from today's perspective, there are some solutions on the horizon:

### **A Permanent Solution: Solar Power from Orbit**

Visionaries have long proposed orbiting satellites to collect the sun's power and beam it to earth. One of the reasons that solar panels are used in space is that the sun's rays are not filtered through the Earth's atmosphere. The power of the sun is almost 10 times greater shining upon a solar panel in orbit in space than on the ground.

This long-term, ambitious plan is to build extremely large solar panels in orbit, convert the sun's energy, and then beam that energy to Earth ground stations. Energy would be returned to Earth using frequencies of microwaves that do not suffer from transmission through the atmosphere. The energy is harnessed much more efficiently. In space, there is no weather to block the sun's power. The sun's power is available 24 hours a day. And because the "Solar Power Satellite" is weightless, very large arrays of solar panels are possible.

This would allow power from the sun to be provided to mankind on a massive scale, pollution free, forever. This energy is absolutely clean. Because the power is beamed to Earth in a concentrated form, the receiving station can be relatively small compared to what would be required to use solar power on Earth. However, unlike Hollywood exaggeration, the beam would not be powerful enough (not concentrated enough) to be harmful.

Construction of Solar Power Satellites in low Earth orbit, and then boosting them to higher orbit, would be expensive to be sure. However, once in place, a Solar Power Satellite then runs with zero fuel costs. So the up-front costs are high but, once the unit is in service, the operating costs over time are near zero. Economies of scale, very simple unmanned launch vehicles, and further research may lower costs. Improvements in solar technology would help greatly. IBM recently announced a breakthrough greatly increasing the efficiency of photoelectric cells for creating electricity from solar power.

### **A Permanent Solution: Geo-Thermal (*Are You Kidding?*)**

Likely initial reactions to this solution will be "Oh, come on..." The reader may be tempted not to believe this. But simply because geo-thermal energy has been mentioned in popular, old futuristic movies, should not prevent careful, sound, and reasonable analysis.

Initially, this does not concern passive geothermal, but instead drilling tap wells to harness the heat deep within the Earth directly. This is a new kind of active geothermal technology, which to this author's knowledge has not been mentioned before.

To grasp the immense and proven potential for limitless, perfectly-clean energy from geothermal energy, one should start with the basic technology of steam engine power.

How does a steam-powered turbine generate electricity now? Nearly all the electricity in the United States is generated by some source of heat boiling water to create steam. This steam turns a turbine which generates the electricity.

Whether the heat source is nuclear power, oil, coal, or any other source, the fundamental technology of generating electricity consists of heat boiling water to create steam, which turns a steam turbine. Viewed in that light, suddenly the reader may understand the enormous power and potential of geothermal sources.

Specifically, the Earth's core is at temperatures varying as high as 9,000 degrees Fahrenheit (water turns to steam at only 212 degrees). The overwhelming majority of the Earth consists of iron, nickel, and rock at such extreme temperatures that the iron, nickel, and various rocks are in a perpetually molten state. The Earth's gravity creates such immense pressures that nearly all of the Earth is forever in a liquid, molten state. The amount of heat in the Earth's center is unimaginable.

The oil exploration industry has become expert in drilling wells to depths as much as 30,000 feet (over 5 ½ miles). As part of the well-drilling process, oil drillers routinely pump water down into those wells and then withdraw that water that was pumped down, in order to clean out debris produced by the drilling and to cool the drill bits. Of course, when drilling for oil explorers are not looking for hot spots.

In the same way, if a well were intentionally drilled down into a hot spot in the Earth — where temperatures might be a thousand degrees near where magma pockets come near to the surface — then water pumped into the well would become super-heated steam at temperatures of many hundreds of degrees Fahrenheit. (Water could also be pre-heated from its source with a large battery of solar water heater panels.)

Water pumped down into such a well, drilled into a high temperature zone, would return as high-pressure steam. That steam would then power a steam turbine to generate electricity. This is exactly the same manner in which all other steam-powered electricity is generated.

Energy produced from deep geothermal wells could literally provide power for all of humanity for the next 5 billion years. According to estimates by [one geothermal analyst](#), if just 2% of America's potential "Deep Geothermal Energy" resources were developed, the total amount of power produced across the U.S. would be 2,800 times greater than America's projected national electricity consumption for the year 2006. Research at Southern Methodist University's Department of Geological Sciences and the University of Texas of the Permian Basin CEED facility estimated that the Earth's total available geothermal energy mass is 50,000 times greater than the world's current total consumption of fossil fuels.

To generate meaningful amounts of electricity would require a vast "farm" or field of dozens or perhaps even hundreds of wells – all contributing steam into the generator turbine. However, the technology is absolutely certain, absolutely proven, and known to work beyond all question. The fundamental technology is as old as the steam engine itself. The only challenge is to simply add on more wells until enough steam is generated. But there are no obstacles.

Furthermore, in a hot zone, we can simply keep building more units. These generators would be relatively small and low impact. The wells once drilled will be capped, probably buried under landscaped soil, and virtually invisible on the landscape. Pipes and lines can be buried out of sight. And the actual steam generator will be quite small compared to other types of familiar power plants. There are no fuel supplies, no fuel stockpiles, no fuel trucks.

The only limiting factors are:

- 1) To locate extremely high-temperature pockets in the Earth, where magma from the Earth pokes up near to the surface of the Earth and can be easily reached, located near the ocean or another source of water, in areas that are not sensitive for reasons of aesthetics,
- 2) To provide for enough volume and flow-through of water from probably a great many wells drilled in the same area to provide sufficient steam to power the electricity generating turbine,
- 3) To install wells and well-heads capable of handling the high pressure from the resulting steam returning to the surface from deep inside the Earth, and
- 4) Possibly equipment to drill much wider holes than used for oil.

There are no hurdles to overcome, no new development needed (besides researching good locations to drill). Because no new techniques or technologies are needed, there is no possibility of these techniques becoming stalled. All drilling involves some risk, and some locations might not pan out. But if enough wells were attempted into areas of high temperature, we know that the result would work – without any doubt.

## **About Jonathan Moseley**

Jonathon Moseley is the Executive Director of the U.S. Seaports Commission for the nonprofit US Intelligence Council. He studied physics at Hampshire College and the University of Amherst in Massachusetts, followed by a degree in Finance at the business college of the University of Florida.