Life After the Oil Crash

"Deal with Reality, or Reality will Deal with You"

Introduction
Store
Links
Letters
Articles
Forum
Prepare
About Me
What's New
Breaking News

Join the LATOC Mailing List

Dear Reader,

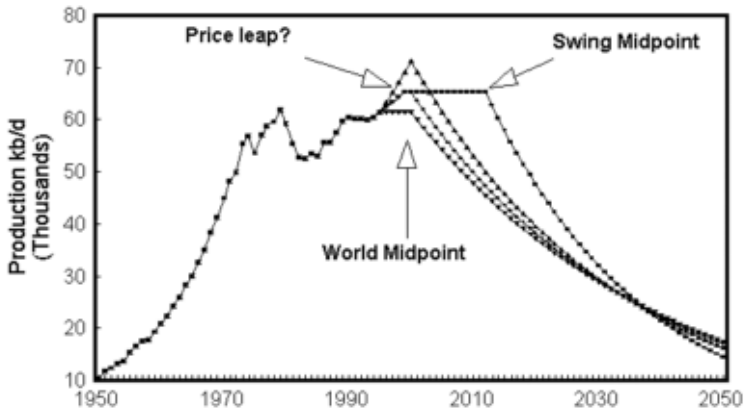
Civilization as we know it is coming to an end soon. This is not the wacky proclamation of a doomsday cult, apocalypse bible prophecy sect, or conspiracy theory society. Rather, it is the scientific conclusion of the best paid, most widely-respected geologists, physicists, and investment bankers in the world. These are rational, professional, conservative individuals who are absolutely terrified by a phenomenon known as global "Peak Oil."

"Are We 'Running Out'? I Thought There Was 40 Years of the Stuff Left"

Oil will not just "run out" because all oil production follows a bell curve. This is true whether we're talking about an individual field, a country, or on the planet as a whole.

Oil is increasingly plentiful on the upslope of the bell curve, increasingly scarce and expensive on the down slope. The peak of the curve coincides with the point at which the endowment of oil has been 50 percent depleted. Once the peak is passed, oil production begins to go down while cost begins to go up.

In practical and considerably oversimplified terms, this means that if 2000 was the year of global Peak Oil, worldwide oil production in the year 2020 will be the same as it was in 1980. However, the world's population in 2020 will be both much larger (approximately twice) and much more industrialized (oil-dependent) than it was in 1980. Consequently, worldwide demand for oil will outpace worldwide production of oil by a significant margin. As a result, the price will skyrocket, oil-dependent economies will crumble, and resource wars will explode.



The issue is not one of "running out" so much as it is not having enough to keep our economy running. In this regard, the ramifications of Peak Oil for our civilization are similar to the ramifications of dehydration for the human body. The human body is 70 percent water. The body of a 200 pound man thus holds 140 pounds of water. Because water is so crucial to everything the

With his website, Li Savinar he breakout becoming after comm the issue o

Now, with Savinar off what to ex now that th

Fully cited *Age is Ov* must-read environme CEO's, blu conservati wants to k how to pro

If the world powered " "red pill."

Click h

human body does, the man doesn't need to lose all 140 pounds of water weight before collapsing due to dehydration. A loss of as little as 10-15 pounds of water may be enough to kill him.

Over

Click here to W

In a similar sense, an oil-based economy such as ours doesn't have to deplete its entire reserves of oil before it begins to collapse. A shortfall between demand and supply as little as 10-15 percent is enough to wholly shatter an oil-dependent economy and reduce its citizenry to poverty.

The effects of even a small drop in production can be devastating. For instance, during the 1970s oil shocks, shortfalls in production as small as 5% caused the price of oil to nearly quadruple. The same thing happened in California a few years ago with natural gas: a production drop of less than 5% caused prices to skyrocket by 400%.

Fortunately, those price shocks were only temporary.

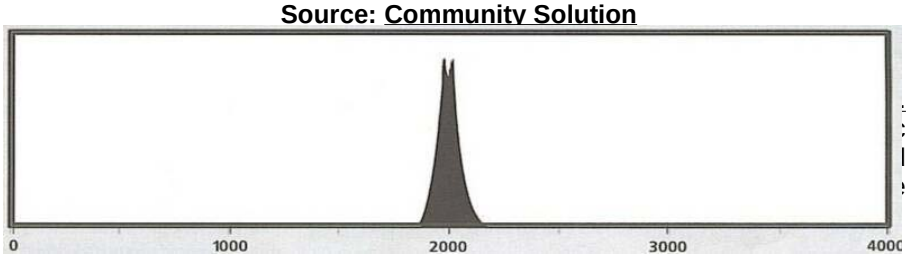
The coming oil shocks won't be so short-lived. They represent the onset of a new, permanent condition. Once the decline gets under way, production will drop (conservatively) by 3-6% per year, every year.

Almost all independent estimates from now disinterested scientists indicate global oil production will peak and go into terminal decline within the next five years.

Many geologists expect that 2005 will be the last year of the cheap-oil bonanza, while estimates coming out of the oil industry indicate "a seemingly unbridgeable supply-demand gap opening up after 2007," which will lead to major fuel shortages and increasingly severe blackouts beginning around 2008-2012.

The long term ramifications of Peak Oil on our way of life are nothing short of mind blowing. As we slide down the downslope slope of the global oil production curve, we may find ourselves slipping into what some scientists are calling a "post-industrial stone age."

Graph: The Energy Curve of History?
Source: Community Solution



"Big deal. If gas prices get high, I'll just get one of those hybrid cars. Why should I give a damn?"

Because petrochemicals are key components to much more than just the gas in your car. As geologist Dale Allen Pfeiffer points out in his article entitled, "Eating Fossil Fuels," approximately 10 calories of fossil fuels are required to produce every 1 calorie of food eaten in the US.

The size of this ratio stems from the fact that every step of modern food production is fossil fuel and petrochemical powered:

1. Pesticides are made from oil;

1. Pesticides are made from oil;

2. Commercial fertilizers are made from ammonia, which is made from natural gas, which is also about to peak.

3. Farming implements such as tractors and trailers are constructed and powered using oil;

4. Food distribution networks are entirely dependant on oil. In the US, the average piece of food is transported 1,500 miles before it gets to your plate;

In short, people gobble oil like two-legged SUVs.

It's not just transportation and agriculture that are entirely dependent on abundant, cheap oil. Modern medicine, water distribution, and national defense are each entirely powered by oil and petroleum derived chemicals.

Most of the consumer goods you buy are made with plastic, which is derived from oil.

All manufacturing processes consume voracious amounts of oil. For instance, the average car - including hybrids - consumes the energy contained in 25-50 barrels (or about 1,200-2,400 gallons) of oil during its construction, while the average computer consumes 10 times its weight in fossil fuels during its construction.

All electrical devices - including solar panels and windmills - make use of silver, copper, and/or platinum, all of which are discovered, extracted, transported, and fashioned using oil-powered machinery.

Nuclear energy requires uranium, which is also discovered, extracted, and transported using oil-powered machinery. Nuclear power plants also consume a tremendous amount of oil during their initial construction and continued maintenance.

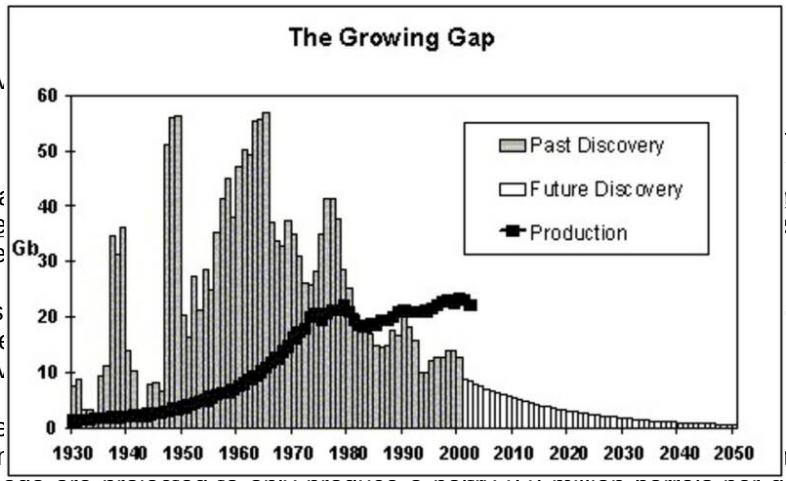
Most importantly, the modern banking and international monetary system is entirely dependent on a constantly increasing supply of oil.

Thus, the aftermath of Peak Oil will extend far beyond how much you will pay for gas. If you are focusing solely on the price at the pump and/or more fuel-efficient forms of transportation, you aren't seeing the bigger picture.

"Can't We Just Look Harder for the Stuff? What About the Oil Sands up in Canada & Oil Shale over in the American West?"

Global oil discovery peaked in 1962 and has declined to virtually nothing in the past few years. We now consume 6 barrels of oil for every barrel we find. Significant new oil discoveries have become so scarce that oil companies are unable to earn back the money they spend exploring for it, despite record high oil prices.

Oil Discovery: (3 Year Average, Past and Projected)
Source: Association for the Study of Peak Oil



The "non conv

The ncially and slow extra eturn on e s rate of re

This ey to gene from conv

Whe ause, ever ıds in Canada are projected to only produce a paltry 2.2 million barrels per day by 2015. That's not much oil considering we currently need 83.5 million barrels per day, are projected to need 120 million barrels per day by 2020.

The huge reserves of oil shale in the American west suffer from similar problems. Although high oil prices have prompted the US government to take another look at oil shale, it is not the savior many people are hoping for. As geologist Dr. Walter Youngquist points out:

> *The average citizen . . . is led to believe that the United States really has no oil supply problem when oil shales hold "recoverable oil" equal to "more than 64 percent of the world's total proven crude oil reserves." Presumably the United States could tap into this great oil reserve at any time. This is not true at all. All attempts to get this "oil" out of shale have failed economically. Furthermore, the "oil" (and, it is not oil as is crude oil, but this is not stated) may be recoverable but the net energy recovered may not equal the energy used to recover it. If oil is "recovered" but at a net energy loss, the operation is a failure.*

If you want to know the harsh truth about the future of oil, simply look at the actions of the oil industry. As a recent article in M.I.T.'s *Technology Review* points out:

> *If the actions - rather than the words - of the oil business's major players provide the best gauge of how they see the future, then ponder the following. Crude oil prices have doubled since 2001, but oil companies have increased their budgets for exploring new oil fields by only a small fraction. Likewise, U.S. refineries are working close to capacity, yet no new refinery has been constructed since 1976. And oil tankers are fully booked, but outdated ships are being decommissioned faster than new ones are being built.*

In addition to lowering their investments in oil exploration and production, oil companies have been merging as though the industry is living on borrowed time:

December 1998: BP and Amoco merge;
April 1999: BP-Amoco and Arco agree to merge;
December 1999: Exxon and Mobil merge;
October 2000: Chevron and Texaco agree to merge;
November 2001: Phillips and Conoco agree to merge;
September 2002: Shell acquires Penzoil-Quaker State;
February 2003: Frontier Oil and Holly agree to merge;

March 2004: Marathon acquires 40% of Ashland
April 2004: Westport Resources acquires Kerr-McGee
July 2004: Analysts suggest BP-Amoco and Shell merge;
February 2005: Chevron Texaco-Unocal merger is rumored

What do you think is motivating these companies to take such drastic actions?

You don't have to contemplate too much, as recent disclosures from oil industry insiders indicate we are indeed "damn close to peaking."

"What About this Theory that Oil is Actually a Renewable Resource?"

A handful of people believe oil is actually a renewable resource continually produced by an "abiotic" process deep in the Earth. As emotionally appealing as this theory may be, it ignores most common sense and all scientific fact. While many of the people who believe in this theory consider themselves "mavericks," respected geologists consider them crackpots.

Moreover, the oil companies don't give this theory the slightest bit of credence even though they are more motivated than anybody to find an unlimited source of oil as each company's shareholder value is based largely on how much oil it holds in reserve. Any oil company who wants to make a ridiculous amount of money (which means all of them) could simply find this unlimited source of oil but refuse to bring it to the market. Their stock value would skyrocket as a result of the huge find while they could simultaneously maintain artificial scarcity by not bringing it to the market.

Even if the maverick/crackpot theories of "unlimited oil" are true, they aren't doing us much good out here in the real world as production is declining in pretty much every nation outside the Middle East.

It certainly isn't doing us any good here in the United States. Our domestic oil production peaked in October 1970 at 10 million barrels per day. It has since declined a little bit each year and now stands at only 5 million barrels per day.

If oil a renewable resource, why isn't it renewing itself here in the good ole' US of A?

"If the Environmentalists Would Get Out of the Way, Can't We Just Drill in ANWR?"

While some folks desperately cling to the belief that oil is a renewable resource, others hold on to the equally delusional idea that tapping the Arctic National Wildlife Reserve will solve, or at least delay, this crisis. While drilling for oil in ANWR will certainly make a lot of money for the companies doing the drilling, it won't do much to help the overall situation for three reasons:

1. According of the Department of Energy, drilling in ANWR will only lower oil prices by less than fifty cents;

2. ANWR contains 10 billion barrels of oil - or about the amount the US consumes in a little more than a year.

3. As with all oil projects, ANWR will take about 10 years to come online. Once it does, its production will peak at 875,000 barrels per day - but not till the year 2025. By then the US is projected to need a whopping 35 million barrels per day while the world is projected to need 120 million barrels per day.

"Is the Bush Administration Aware of Peak Oil?"

Yes.

In late 1999, Dick Cheney stated:

> *By some estimates, there will be an average of two-percent annual growth in global oil demand over the years ahead, along with,* ***conservatively****, a three-percent natural decline in production from existing reserves. That means by 2010 we will need on the order of an additional 50 million barrels a day.*

To put Cheney's statement in perspective, remember that the oil producing nations of the world are currently pumping at full capacity but are unable to produce much more than 80 million barrels per day. Cheney's statement was a tacit admission of the severity and imminence of Peak Oil as the possibility of the world raising its production by such a huge amount is borderline ridiculous.

A report commissioned by Cheney and released in April 2001 was no less disturbing:

> *The most significant difference between now and a decade ago is the extraordinarily rapid erosion of spare capacities at critical segments of energy chains. Today, shortfalls appear to be endemic. Among the most extraordinary of these losses of spare capacity is in the oil arena.*

Not surprisingly, George W. Bush has echoed Dick Cheney's sentiments. In May 2001, Bush stated, "What people need to hear loud and clear is that we're running out of energy in America."

One of George W. Bush's energy advisors, energy investment banker Matthew Simmons, has spoken at length about the impending crisis. Simmons is a self-described "lifelong Republican." His investment bank, Simmons and Company International, is considered the most reputable and reliable energy investment bank in the world.

Given Simmons' background, what he has to say about the situation is truly terrifying. For instance, in an August 2003 interview with *From the Wilderness* publisher Michael Ruppert, Simmons was asked if it was time for Peak Oil to become part of the public policy debate. He responded:

> *It is past time. As I have said, the experts and politicians have no Plan B to fall back on. If energy peaks, particularly while 5 of the world's 6.5 billion people have little or no use of modern energy, it will be a tremendous jolt to our economic well-being and to our health — greater than anyone could ever imagine.*

When asked if there is a solution to the impending natural gas crisis, Simmons responded:

> *I don't think there is one. The solution is to pray. Under the best of circumstances, if all prayers are answered there will be no crisis for maybe two years. After that it's a certainty*.

In May 2004, Simmons explained that in order for demand to be appropriately controlled, the price of oil would have to reach $182 per barrel. With oil prices at $182 per barrel, gas prices would likely rise to $7.00 per gallon.

If you want to ponder just how devastating oil prices in the $200 range will be for the US economy, consider the fact that one of Osama Bin-Laden's goals has been to force oil prices into the $200 range.

As one commentator recently pointed out, the reason our leaders are acting like desperados is because we have a desperate situation on our hands.

"Won't the Market and the Laws of Supply and Demand Address This?"

Not enough to prevent an economic meltdown.

As economist Andrew Mckillop explains in a recent article entitled, "Why Oil Prices Are Barreling Up," oil is nowhere near as "elastic" as most commodities:

> *One of the biggest problems facing the IEA, the EIA and a host of analysts and "experts" who claim that "high prices cut demand" either directly or by dampening economic growth is that this does not happen in the real world.*
>
> *Since early 1999, oil prices have risen about 350%. Oil demand growth in 2004 at nearly 4% was the highest in 25 years. These are simple facts that clearly conflict with received notions about "price elasticity". World oil demand, for a host of easily-described reasons, tends to be bolstered by "high" oil and gas prices until and unless "extreme" prices are attained.*

As mentioned previously, this is exactly what happened during the oil shocks of the 1970s - shortfalls in supply as little as 5% drove the price of oil up near 400%. Demand did not fall until the world was mired in the most severe economic slowdown since the Great Depression.

While many analysts claim the market will take care of this for us, they forget that neoclassic economic theory is besieged by several fundamental flaws that will prevent the market from appropriately reacting to Peak Oil until it is too late.

To make matters worse, most classically trained economists don't take into account how people react psychologically when they realize their way of life is coming to an end. Within a few months of global oil production hitting its peak, it will become impossible to dismiss the decline in supply as a merely transitory event. Once this occurs, you can expect traders on Wall Street to quickly bid the price up to currently unimaginable levels. The effects of this realization will be frightening. As former oil industry insider Jan Lundberg recently pointed out:

> *The scenario I foresee is that market-based panic will, within a few days, drive prices up skyward. And as supplies can no longer slake daily world demand of over 80 million barrels a day, the market will become paralyzed at prices too high for the wheels of commerce and even daily living in "advanced" societies. There may be an event that appears to trigger this final energy crash, but the overall cause will be the huge consumption on a finite planet.*
>
> *The trucks will no longer pull into Wal-Mart. Or Safeway or other food stores. The freighters bringing packaged techno-toys and whatnot from China will have no fuel. There will be fuel in many places, but hoarding and uncertainty will trigger outages, violence and chaos. For only a short time will the police and military be able to maintain order, if at all.*

The reason for the market's inability to properly control oil prices is simple: oil is not just any resource. In our current world, it is the precondition for all other resources: food, water, medicine and, in particular, alternatives to oil.

To illustrate, as of November 2004, a barrel of oil costs about $45. The amount of energy contained in that barrel of oil would cost between $100-$250* dollars to derive from alternative sources of energy. Thus, energy companies won't begin aggressively pursuing alternative sources of energy until oil reaches the $100-$250 mark.

**This does not even account for the amount of money it would take to locate and refine the raw materials necessary for a large scale conversion, the construction and deployment of the alternatives, and finally the retrofitting of the world's $45 trillion dollar infrastructure to run on these alternative sources.*

Once they do begin aggressively pursuing these alternatives, there will be a 25-to-50 year lag time between the initial heavy-duty research into these alternatives and their wide-scale industrial implementation.

However, in order to finance an aggressive implementation of alternative energies, we need a tremendous amount of investment capital - in addition to affordable energy and raw materials - that we absolutely will not have once oil prices are permanently lodged in the $200 per barrel neighborhood.

We are already engaged in an "East-West bidding war" with China for the energy and raw materials we would need to make a large scale transition to alternative forms of energy. As history has demonstrated, when stakes are high, the line between "competition/bidding wars" and actual "warfare" tends to get stepped over. As stakes have never been this high, that line is likely to get trampled over.

In short, we are a prisoner of our own economic dilemma/catch 22:

1. Right now, we have no economically scalable alternatives to oil. (Emphasis placed on economic scalability, not technical viability.)

2. We won't get motivated to aggressively pursue economically scalable alternatives until oil prices are sky-high;

3. Once oil prices are sky-high, our economy will be shattered, and we won't be able to finance an aggressive switch-over to whatever alternative sources of energy are available to us. Without cheap oil, and without economically scalable alternatives, we will basically be "dead in the water."

4. An aggressive conservation program will bring down the price of oil, thereby removing the incentive to pursue alternatives until it is too late.

5. Any attempt to secure the energy and raw materials necessary to power a large-scale transition to renewable forms of energy is likely to be met with fierce competition, if not outright warfare, with China, which has a million man standing army fully-indoctrinated to hate the US.

"What About all the Various Alternatives to Oil? Can't we Find Replacements?"

Many politicians and economists insist that there are alternatives to oil and that we can "invent our way out of this."

Physicists and geologists tell us an entirely different story.

The politicians and economists are selling us 30-year old economic and political fantasies, while the physicists and geologists are telling us scientific and mathematical truth. Rather than accept the high-tech myths proposed by the politicians and economists, its time for you to start asking critical questions about the so called "alternatives to oil" and facing some hard truths about energy.

While there are many technologically viable alternatives to oil, there are none (or combination thereof) that can supply us with anywhere near the amount of net-energy required by our modern monetary system and industrial infrastructure.

People tend to think of alternatives to oil as somehow independent from oil. In reality, the alternatives to oil are more accurately described as "derivatives of oil." It takes massive amounts of oil and other scarce resources to locate and mine the raw materials (silver, copper, platinum, uranium, etc.) necessary to build solar panels, windmills, and nuclear power plants. It takes more oil to construct these alternatives and even more oil to distribute them, maintain them, and adapt current infrastructure to run on them.

Each of the alternatives is besieged by numerous fundamental physical shortcomings that have, thus far, received little attention. A brief sampling:

"What About Green Alternatives like Solar, Wind, Wave, and Geothermal?"

Solar and wind power suffer from two fundamental physical shortcomings that prevent them from ever being able to replace more than a tiny fraction of the energy we get from oil: lack of energy density and energy intermittency.

I. Energy Density/Inappropriateness as Transportation Fuels:

Few people realize how much energy is concentrated in even a small amount of oil or gas. A barrel of oil contains the energy-equivalent of almost 25,000 hours of human labor. While a barrel of oil currently sells for about $45, it only takes $1.00 to actually pull a barrel of oil out of the ground in Iraq. In Saudi Arabia, it only takes $2.50, while in the US it it takes $10.00 per barrel. The global average is about $5.00/barrel.

Think about that for a moment: the average hourly wage in the US is a little less than $20/hour. Twenty-five thousand hours of human labor at $20/hour would cost an employer $500,000. The average barrel of oil gives us access to the energy equivalent of the same amount of labor for less than $5.00 in production costs. That's a rate of return of 100,000/1.

.

A single gallon of gasoline contains the energy-equivalent of 500 hours of human labor. Most people are stunned to find this out, but it makes sense when you think about it. It only takes one gallon of gasoline to propel a three ton SUV 10 miles in 10 minutes. How long would it take you to push the three ton SUV 10 miles?

Working for a wage of $20/hour, the average American can thus afford 10 gallons of gas - which will contain the energy equivalent of 5,000 hours of human labor - by working for only one hour.

While the energy-density of oil and gas give them rates of return comparable to a lottery ticket or marriage to a ketchup fortune heiress, the energy-density of solar and wind give them returns comparable to minimum wage jobs. For instance, it would take 4 Manhattan size city blocks of solar equipment to produce the amount of energy distributed by a single gas station in one day.

With 17,0000 gas stations just in the United States, you don't need to be a mathematician to realize that solar power is incapable of meeting our urgent need for a new energy source that - like oil - is dense, affordable, and transportable.

On a similar note, It would take close to 220,000 square kilometers of solar panels to power the global economy via solar power.

Wind is better than solar, but the essential problem - a lack of energy density - is still present. To illustrate, it takes all of California's 13,000 wind turbines to generate as much electricity as a single 555-megawatt natural gas fired power plant.

Oil provides over 90% of our transportation fuel. Solar and wind cannot be used for transportation fuels unless they are used to crack hydrogen from water via electrolysis. The electrolysis process is a simple one, but unfortunately it consumes 1.3 units of energy for every 1 unit of energy it

produces. In other words, it results in a net loss of energy. You can't replace oil - which has a positive EROEI of about 30 - with an energy source that actually carries a negative EROEI.

II. Energy Intermittency:

In addition to suffering from poor energy-density and being largely inappropriate for transportation, solar and wind also suffer from energy intermittency. Unlike oil and gas, which can be used at anytime of the day or night, solar and wind are dependent on weather conditions. This may not be that big of a deal if you simply want to power your household appliances or a small scale, decentralized economy, but if you want to run an industrial economy that relies on airports, airplanes, 18-wheel trucks, millions of miles of highways, huge skyscrapers, 24/7 availability of fuel, etc., an intermittent source of energy will not suffice.

III. Percentage of Total Energy Supply

Finally, most people new to this issue drastically overestimate the amount of energy we will be able to realistically derive from these sources inside of the next 5-25 years.

In 2003, the US consumed 98 quadrillion BTU's of energy. A whopping .171 quadrillion came from solar and wind combined. Do the math (.171/98) and you will see that a total of less then one-sixth of one percent of our energy appetite was satisfied with solar and wind combined. Thus, just to derive a paltry 2-3 percent of our current energy needs from solar and wind, we would need to double the percentage of our energy supply derived from solar/wind, then double it again, then double it again, and then double it yet again.

Unfortunately, the odds of us upscaling our use of solar and wind to the point where they provide even just 2-3 percent of our total energy supply are about the same as the odds of Michael Moore and Dick Cheney teaming up to win a 5K relay race. Despite jaw-dropping levels of growth in these industries, coupled with practically miraculous drops in price per kilowatt hour (95% drop in two decades), along with increased interest from the public in alternative energies, the percentage of our total energy supply derived from solar and wind is projected to grow by only 10 percent per year.

Twenty-five years from now, we will be lucky if solar and wind account for one percent of our total energy supply.

Other alternative energy sources, such as wave and geothermal power, are besieged by similar fundamental physical shortcomings as solar and wind. While they are fantastic sources of energy in and of themselves, they are incapable of replacing more than a fraction of our petroleum usage for the same reasons as solar and wind: they are nowhere near as energy dense as petroleum and they are inappropriate as transportation fuels. In addition, they are also limited by geography - wave power is only technically viable in coastal locations while only a few nations have access to enough geothermal power to make up for much of their petroleum consumption.

On a related note, even if solar, wind, and other green alternatives could replace oil, we still wouldn't escape the evil clutches of so called "Big Oil." The biggest maker of solar panels is British Petroleum while the second biggest maker of wind turbines is General Electric, who obtained their wind turbine business from that stalwart of corporate social responsibility, Enron.As these two examples illustrate, the notion that "Big Oil is scared of the immerging renewable energy market!" is silly. "Big Oil" already owns the renewable energy market.

"What About the Heralded Hydrogen Economy?"

Hydrogen fuels cells aren't the answer either. As of 2003, the average fuel cell costs close to $1,000,000. Unlike other alternatives, hydrogen fuel cellls have shown little sign of coming down in price.

Even if the cost is lowered by 98%, placing the price at $20,000 per cell, hydrogen fuel cells will never power more than a handful of cars due to a worldwide shortage of platinum:

A single hydrogen fuel cell requires 20 grams of platinum. If the cells are mass-produced, it may be possible to get the platinum requirement down to 10 grams per cell. The world has 7.7 billion grams of proven platinum reserves. There are approximately 700 million internal combustion engines on the road. Ten grams of platinum per fuel cell x 700 million fuel cells = 7 billion grams of platinum, or practically every gram of platinum in the earth.

Unfortunately, as a recent article in *EV World* points out, the average fuel cell lasts only 200 hours. Two hundred hours translates into just 12,000 miles, or about one year's worth of driving at 60 miles per hour. This means all 700 million fuel cells (with 10 grams of platinum in each one) would have to be replaced every single year.

Thus replacing the 700 million oil-powered vehicles on the road with fuel cell-powered vehicles, for only 1 year, would require us to mine every single ounce of platinum currently in the earth and divert all of it for fuel cell construction only.

Doing so is absolutely impossible as platinum is astonishingly energy intensive (expensive) to mine, is already in short supply, and is indispensable to thousands of crucial industrial processes.

Even if this wasn't the case, the fuel cell solution would last less than one year. As with oil, platinum production would peak long before the supply is exhausted.

What will we do, when less than 6 months into the "Hydrogen Economy," we hit Peak Platinum? Perhaps Michael Moore will produce a movie documenting the connection between the President's family and foreign platinum companies while following the plight of a mother whose son died in the latest platinum war?

If the hydrogen economy was anything other than a total red herring, such issues would eventually arise as 80 percent of the world's proven platinum reserves are located in that bastion of geopolitical stability, South Africa.

"What About Nuclear Energy?"

Nuclear energy requires uranium - of which the US has enough to power **existing reactors** for 25-40 years. As with oil, the extraction of uranium follows a bell-curve. If a large scale nuclear program was undertaken the supply of US domestically derived uranium would likely peak in under 15 years.

Even if such a program is undertaken, there is no guarantee the energy generated from nuclear sources would be any cheaper than energy generated from fossil fuels. Attempts by China and India to scale up their use of nuclear energy, for instance, have already caused uranium prices to skyrocket.

Uranium supply issues aside, a large scale switch over to nuclear power is not really an option for an economy that requires as much energy as ours does. It would take 10,000 of the largest nuclear power plants to produce the energy we get from fossil fuels. At $3-5 billion per plant, it's not long before we're talking about "real money" - especially since the $3-5 billion doesn't even include the cost of decommissioning old reactors, converting the nuclear generated energy into a fuel source appropriate for cars, boats, trucks, airplanes, and the not-so-minor problem of handling nuclear waste.

Speaking of nuclear waste, it is a question nobody has quite answered yet. This is especially the case in countries such as China and Russia, where safety protocols are unlikely to be strictly adhered to if the surrounding economy is in the midst of a desperate energy shortage.

Nor has anybody answered the question, "Where are we going to get the massive amounts of oil necessary to build all of these reactors, especially since they take 10 or so years to build and we won't get motivated to build them until after oil supplies have reached a point of permanent scarcity?"

Finally, there is the small problem of what to do if a tsunami (or other similarly destructive catastrophe) hits an area where these plants are located.

"What About Biofuels Such as Biodiesel?"

Biofuels such as biodiesel, ethanol, methanol etc. are great, but only in small doses. Aside from the fact biofuels are all grown with massive fossil fuel inputs (pesticides and fertilizers) and suffer from horribly low EROEIs when compared to oil, there is the problem of where to grow the stuff, as we are rapidly running out of arable land on which to grow food, let alone fuel.

If we wanted to replace even a small part of our oil supply with farm grown biofuels, we would need to turn most of Africa into a giant biofuel farm.

Obviously many Africans - who are already starving - would not take kindly to us appropriating the land they use to grow their food to grow our fuel. As author George Monbiot points out, such an endeavor would be a humanitarian disaster. Any attempt to turn Africa into a large-scale biofuel farm will likely result in a continental-sized insurgency.

Assuming the conversion of Africa into a large scale biofuel farm is even economically and technically viable, and putting the humanitarian concerns of such a project aside for a moment, we would simply be replacing our "dependence on foreign oil" with "dependence on foreign grown biodiesel."

And who do you think would get the no-bid contracts to develop the soybean fields down in Africa? Your local biodiesel cooperative or giant agribusiness companies such as Archer Daniels Midland and Monsanto?

Some folks are doing research into alternatives to soybeans such as biodiesel producing pools of algae. As with every other project that promises to "replace all petroleum fuels," perhaps some day the project will actually produce a commercially available barrel of biodiesel prior to the peak in global oil production. Twenty years after that - if by some miracle our economy is still intact - maybe we will have scaled production of algae-derived biodiesel up to a level where it will make some type of small difference in the life of the average citizen of petroleum culture.

But until that miraculous day comes, we had better prepare as though these projects will make as much of a difference as every other project that confidently proclaims that it "can replace all oil and gas imported from other nations/used in transportation/etc, while improving the economy, cleaning up the environment, reducing terrorism, and all in just a few years to boot!"

Should we be investing in such projects? Absolutely yes. But for the average person to expect a project still in the research and development stages to prevent the collapse of a global economy that is currently consuming 30 billion barrels of oil (that is 1.2 trillion gallons) per year is as naive as anything Neville Chamberlain uttered in the years leading up to World War II.

The fact that so many people in the green/environmental movement refuse to acknowledge the fundamental inability of fuels like biodiesel to replace more than a tiny portion of our petroleum consumption underscores why a complete collapse of the petroleum powered world may now be unavoidable. As Dr. Ted Trainer explains in a recent article on the thermodynamic limitations of biomass fuels:

> *This is why I do not believe consumer-capitalist society can save itself. Not even its "intellectual" classes or green leadership give any sign that this society has the wit or the will to even think about the basic situation we are in. As the above figures make clear, the situation*

situation we are in. As the above figures make clear, the situation cannot be solved without huge reduction in the volume of production and consumption going on.

For a comprehensive discussion of other alternatives to oil, click here.

"Can't We Use a Combination of the Alternatives to Replace Oil?"

Absolutely. Despite their individual shortcomings, it is still possible for the world economy to run on a basket of alternative sources of energy - so long as we immediately get all of the following:

1. A few dozen technological breakthroughs;
2. Unprecedented political will and bipartisan cooperation;
3. Tremendous international collaboration;
4. Massive amounts of investment capital,
5. Fundamental reforms to the structure of the international banking system;
6. No interference from the oil-and-gas industries;
7. About 25-50 years of general peace and prosperity to retrofit the world's $45 trillion dollar per year economy, including transportation and telecommunications networks, manufacturing industries, agricultural systems, universities, hospitals, etc. , to run on these new sources of energy.
8. A generation of engineers, scientists, and economists trained to run a global economy powered by new sources of energy.

If we get all of the above, we might be able to get the energy equivalent of 3-5 billion barrels of oil per year from alternative sources.

That's a tremendous amount of oil - about as much as the entire world used per year during World War II, but it's nowhere near enough to keep our currently mammoth-sized yet highly volatile global economic system going. The world currently requires over **30 billion barrels/1.2 trillion gallons** of oil per year to support economic growth. That requirement will only increase as time goes on due to population growth, debt servicing, and the industrialization of nations such as China and India.

So even if the delusionally optimistic 8-step scenario described above is somehow miraculously manifested, we're still facing a 70-90% reduction in the amount of energy available to us. Consequently, a full-blown meltdown of petrochemical civilization is now inevitable.

"What About Amazing New Technologies Such As Thermal Depolymerization, Solar Nanotech, Space Based Solar Arrays, and other 'Energy-Miracles'?"

Thermal depolymerization is an intriguing solution to our landfill problems, but since most of the feedstock (such as tires and turkey guts) requires high-grade oil to make in the first place, it is more "high-tech recycling" than it is a solution to a permanent oil shortage.

In terms of replacing traditional oil, the technology is besieged by several fundamental shortcomings that those desperately hoping for a techno-messiah tend to overlook:

messiah tend to overlook.

First, there is the problem of the technology's net energy - or more accurately, lack thereof. According to the company itself, the process has an efficiency of 85%. This means 100 units of energy go in, 85 come out. That's a negative EROEI of .85. You can't hope to replace or even supplement traditional oil's positive EROEI of 30 (or more) with a process that carries a negative EROEI.

Then there is the problem of production costs. According to a recent article in *Fortune Magazine*, a barrel of oil produced via the thermal depolymerization process costs $80 to produce as of January 2005. To put that figure in perspective, consider the fact that oil pulled out of the ground in Saudi Arabia costs less than $2.50 per barrel, while oil pulled out of the ground in Iraq costs only $1.00 per barrel.

This means that with spot oil prices in the $50/barrel range, a barrel of oil produced via thermal depolymerization in January 2005 would have to sell for between $1,600-$4,000 per barrel to have a return on investment comparable to oil produced from Saudi Arabia or Iraq.

Oil prices of $1,600-$4,000 per barrel would put gas prices at roughly $80-$200 per gallon.

If the technology was the miracle many people are desperately hoping for, the company would likely not have needed a grant from the Department of Energy to keep its head above water.

Low EROEI and sky-high production costs aside, a look at the history of thermal depolymerization tends to show it will never amount to more than a tiny drop in the giant barrel that is our oil appetite.The technology was first developed for commercial use in 1996. Here we are, ten years later and there is only one thermal depolymerization plant online and it is producing less than 500 barrels of oil per day, despite record high oil prices. Even if oil production from thermal depolymerization is upscaled by a factor of 1,000, and the cost of production brought down by a factor of 10, it will still only be producing 500,000 barrels of oil per day. While that may make a tremendous amount of money for the company, it won't make much difference in our overall situation as the global need for oil is projected to reach 120,000,000 barrels per day by 2020.

If thermal depolymerization sounded "too good to be true" when you first heard about it, now you know why.

As disappointing as thermal depolymerization has been, at least it has produced a small amount of commercially available energy. The same cannot be said for space-based solar arrays, which according to NASA, are plagued by "major technical, regulatory and conceptual hurdles" and won't see the light of day for several decades.

Even if these major hurdles are somehow cleared inside of 5 years instead of 50 years, there is still the not-so-minor problem of rewiring all of industrial civilization - including agriculture, communications, transportation, defense, health care, education, industry, government, finance/banking, etc. . . to run on space-derived solar energy.

Of course, before the global rewiring can begin, we have to find the energy, raw materials, political willingness, financial capital, etc. to get such a project off the ground.

We also have to find a way to prevent China's million man standing army from snapping up all the raw materials necessary to make the transition.

While there are some promising technological advancements in solar-nanotechnology, even Dr. Richard Smalley, the scientist at the forefront of these technologies, admits we need a series of **"miracles"** to prevent a total collapse of industrial civilization.

In the February 2005 issue of Discover Magazine, Dr. Smalley gave the following prognosis:

There will be inflation as billions of people compete for insufficient resources. There will be famine. There will be terrorism and war.

He went on to say that it will take "presidential leadership" to inspire us to pursue technologies that might alleviate this crisis.

In other words, the chances of technology saving you from the coming economic collapse are about the same as the chances of another virgin-birth taking place.

For you or any other "average" person to expect high-tech solutions to save you from the economic effects of Peak Oil is akin to a person living in sub-Saharan Africa to expect high-tech medical treatments to save their community from the effects of AIDS. These treatments are available to super-wealthy people like Magic Johnson, not poor people in Africa.

Likewise, many of the recent technological advancements in energy production and efficiency may be available and affordable to extraordinarily wealthy people or agencies like the Department of Defense, but they aren't going to be available or affordable to you.

It may be a tough pill to swallow, but adaptation for 6-7 million super-wealthy people does not equal survival for 6-7 billion not-so-wealthy people.

"What About Hybrids and Super Fuel Efficient Cars?"

Hybrids or so called "hyper-cars" aren't the answer either because the construction of an average car consumes about 25-50 barrels of oil. Thus, a crash program to replace the 700 million internal combustion vehicles currently on the road with super fuel-efficient or alternative fuel-powered vehicles would consume approximately 18-36 billion barrels of oil, which is the amount of oil the world currently consumes in six-to-twelve months. Consequently, such a program (while well-intentioned) would actually bring the collapse upon us even sooner.

On a similar note, the construction of an average car also consumes 120,000 gallons of **fresh water**. Unfortunately, the world is in the midst of a severe water crisis that is only going to get worse in the years to come. Scientists are already warning us to get ready for massive "water wars."

Thus, the only way for us to replace our current fleet of gas-guzzling SUVs with fuel-efficient hybrids is to to seize control of the world's reserves of both oil and fresh water and then divert those resources away from the billions of people who rely on them.

Even if were willing to undertake such an endeavor, the problem will still not be solved due to a phenomenon known as as "Jevon's Paradox," whereby increases in energy efficiency are obliterated by corresponding increase in energy consumption.

The US economy is a good example of Jevon's Paradox in action. Since 1973, we have managed to cut in half the amount of oil necessary to generate a dollar of GDP. At the same time, however, we have doubled our level of consumption. Thus, despite massive increases in the energy efficiency over the last 30 years, we are more dependent on oil than ever. This trend is unlikely to be abated in a market economy.

The widespread use of technologies such as the internal combustion engine and the air conditioner is what got us into this situation. It is thus unlikely that even more technology will get us out of it.

"What About Large-Scale Efforts at Conserving Energy or Becoming More Energy Efficient?"

Amazingly, such efforts will actually make our situation worse. This probably makes absolutely no sense unless you understand how the modern day banking and monetary system works. To illustrate, let's revisit Jevon's Paradox, explained above, with an example:

Pretend you own a computer store and that your monthly energy bill, as of December 2004, is $1,000. You then learn about the coming energy famine and decide to do your part by conserving as much as possible. You install energy efficient lighting, high quality insulation, and ask your employees to wear sweaters so as to minimize the use of your store's heating system.

After implementing these conservation measures, you manage to lower your energy bill by 50% - down to $500 per month.

While you certainly deserve a pat-on-the-back and while your business will certainly become more profitable as a result of your conservation efforts, you have in no way helped reduce our overall energy appetite. In fact, you have actually increased it.

At this point, you may be asking yourself, "How could I have possibly increased our total energy consumption when I just cut my own consumption by $500/month? That doesn't seem to make common sense . . ."

Well think about what you're going to do with that extra $500 per month you saved. If you're like most people, you're going to do one of two things:

1. You will reinvest the $500 in your business. For instance, you might spend the $500 on more advertising. This will bring in more customers, which will result in more computers being sold. Since, as mentioned previously, the average desktop computer consumes 10X it's weight in fossil-fuels just during its construction, your individual effort at conserving energy has resulted in the consumption of more energy.

2. You will simply deposit the $500 in your bank account where it will accumulate interest. Since you're not using the money to buy or sell anything, it can't possibly be used to facilitate an increase in energy consumption, right?

   Wrong. For every dollar a bank holds in deposits, it will loan out between six and twelve dollars. These loans are then used by the bank's customers to do everything from starting businesses to making down payments on vehicles to purchasing computers.

   Thus, your $500 deposit will allow the bank to make between $3,000 and $6,000 in loans - most of which will be used to buy, build, or transport things using fossil fuel energy.

Typically, Jevon's Paradox is one of the aspects of our situation that people find difficult to get their minds around. Perhaps one additional example will help clarify it:

Think of our economy as a giant petroleum powered machine that turns raw materials into consumer goods which are later turned into garbage:

The Economy

If you remove the machine's internal inefficiencies, the extra energy is simply reinvested into the petroleum supply side of the machine. By removing the machine's internal inefficiencies, you have enabled it to consume petroleum and produce garbage at an even faster rate.

The only way to get the machine to consume less petroleum is for whoever owns/operates the machine to press the button that says "slow-down." However, since we are all dependent on the machine for jobs, food, affordable health care, subsidies for alternative forms of energy, etc., nobody is going to lobby the owners/operators of the machine to press the "slow-down" button until it's too late.

Eventually (sooner than later) the petroleum plug will get pulled and the machine's production will sputter before grinding to a halt. At that point, those of us dependent on the machine (which means all of us) will have to fight for whatever scraps it manages to spit out.

To be clear: conservation will benefit you as an individual. If, for instance, you save $100/month on your energy bills, you can roll that money into acquiring skills or resources that will benefit you as we slide down the petroleum-production downslope. But since your $100 savings will result in a net increase in the energy consumed by society as a whole, it will actually cause us to slide down the downslope faster.

So long as we have a monetary system based on debt, there is no way out of this conundrum on a societal wide scale. This may be why the Qu' ran, the Bible, and the Founding Fathers all insisted we stay away from debt based monetary systems.

Anytime, Moses, Mohammad, and Thomas Jefferson are in agreement on something, it's probably for a good reason.

"So What's Going to Happen to the Economy?"

Even if you can currently afford the latest in alternative energy technologies, it won't help you much since the majority of the population can't. Got solar panels on your roof and a brand-new hybrid car? Great, but since most people can't afford those things, and the global industrial base hasn't been retrofitted to run on them, the economy is still going to implode.

The US economy is particularly vulnerable to the coming oil shortages. As the most indebted nation in the world, the US is completely dependent on strong economic growth just to pay the interest on its debts. This is as true for individual citizens as it is for corporations and governments. A declining oil/energy supply means the economy can't grow which means individuals, corporations, and governments can't pay off their debts, which means economic anarchy is on the way.

Furthermore, unlike nations in Europe, the US has built it's entire infrastructure and way of life under the assumption oil would always be cheap and plentiful. Since that is no longer the case, the US economy is in even more trouble than the economies of nations like the UK, Germany, Spain, and France.

So even in the best-case scenario, we're looking at an international financial meltdown and a collapse of the value of US dollar so severe that the Great Depression will look like the "good ole days."

That's if we manage to avoid the "economic Armageddon" recently predicted by the chief economist at investment banking giant Morgan Stanley.

The end of cheap oil also means the elimination of Great Depression era social programs such as Social Security and Medicare. Pensions too will soon to be a thing of the past.

On the international front, the financial dislocations wrought by the coming oil

shocks will plunge the world into a series of resource wars and "currency insurgencies" unlike anything we can imagine. The international destabilization and devaluing of the US dollar will further exacerbate the economic collapse at home while impeding our physical & financial ability to pump whatever oil is left in the ground and then bring it to the market.

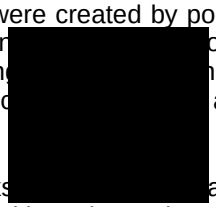
As the US economy begins to rapidly disintegrate, massive civil unrest may break out as the various factions of the divided American citizenry seek to blame the economic situation on whoever their favorite scapegoat is. Liberals and blue-states will blame "Bush, Big-Oil and the Neocons" while conservatives and red-staters will blame "Bin-Laden, Big-Government, and the Extreme Left."

Both groups will likely gravitate to and rally around reactionary political demagogues who promise to bring back the good days by eliminating whatever domestic or foreign group(s) they have decided are at fault for the economic and geopolitical unraveling.

Put simply, the end of oil may result in the end of America as we know it.

"How Can I Be Sure This Isn't Just More 1970s Doom-and-Gloom?"

The oil shocks of the 1970s were created by political events. In 1973, OPEC cut its production in retaliation of Israel. In 1979, Iran cut its production in hopes of crippling ." In both cases, the US was able to turn to other oil producers, such as Venezuela, to alleviate the crisis.



Once **global** production peaks anybody to turn to. The crisis will just get worse and worse with each passing year.

The evidence of an imminent peak in global oil production is now overwhelming:

1. Ninety-nine percent of the world's oil comes from 44 oil producing nations. At least 24 of these nations are past their peak and now in terminal decline.

2. The entire world - with the exception of the Middle East - peaked in 1997. The US peaked in 1970, Russia in 1987, the UK in 1999. Even Saudi Arabia - the famed "producer for all seasons" may be on the verge of seeing its production collapse.

3. Global production of conventional oil has essentially plateaued since the year 2000.

As far as "doom-and-gloom" consider what widely respected Deutsche Bank had to say about Peak Oil in a recent report entitled, *Energy Prospects After the Petroleum Age*:

> *The end-of-the-fossil-hydrocarbons scenario is not therefore a doom -and-gloom picture painted by pessimistic end-of-the world prophets, but a view of scarcity in the coming years and decades that must be taken seriously.*

The Australian Financial Review echoed the sentiments of Deutsche Bank in a January 2005 article entitled, "Staring Down the Barrel of a Crisis":

> *The world's oil production may be about to reach its peak, forever. Such apocalyptic prophecies often surface in the middle of the northern hemisphere winter. What is unusual is that this time the doomsday scenario has gained serious credibility among respected analysts and commentators.*

On a similar note, as mentioned previously, the chief economist at Morgan Stanley recently predicted that we have a 90% chance of facing "Economic Armageddon," while stating, "I fear modern day central banking is on the brink of systematic failure."

When somebody like the chief economist at one of the world's biggest banks makes a statement like that, it's not a surprise somebody like investment banker and Bush-consultant Matt Simmons has stated "the only solution is to pray."

While not specifically mentioning Peak Oil, Warren Buffet has warned of impending financial chaos. Similarly, *Forbes Magazine* recently ran an article explaining that the "world is on the brink of financial ruin."

Given the credentials of those sounding the alarm the loudest, it is extremely unwise for you to causally dismiss this as just more "1970s doom-and gloom."

If you do insist on dismissing what you have read on this page as "unnecessary pessimism," remember that one of the reasons we find ourselves faced with such a huge and seemingly unsolvable problem is that whenever somebody, such as Dr. Hubbert in 1956, has pointed out frightening but undeniably true facts, they were dismissed and ignored as "overly-pessimistic" or chided to "give us some good news!"

Our culture-wide "addiction to happiness" has prevented us from dealing with these problems for the last 3-4 generations. Unfortunately, the wolf is now at the door, and we are totally unprepared to fend him off.

"Does the US Government Have a Plan to Deal With This?"

Absolutely.

The US government has been aware of Peak Oil since at least 1977 and has been actively planning for this crisis for over 30 years.

Three decades of careful, plotting analysis has yielded a comprehensive, sophisticated, and multi-faceted plan in which military force will be used to secure and control the globe's energy resources. This plan is simplistically, but not altogether inaccurately - known as **"Go to War to Get Oil."**

This strategy was publicly announced in April 2001, when a report commissioned by Dick Cheney was released. According to the report, entitled *Strategic Energy Policy Challenges For The 21st Century,* the US is facing the biggest energy crisis in history and that the crisis requires "a reassessment of the role of energy in American foreign policy."

That's a diplomatic way of saying we are going to be fighting oil wars for a very long time.

James Woolsey, the former Director of the CIA, practically admitted as much at a recent conference on renewable energy:

> *I fear we're going to be at war for decades, not years . . . Ultimately we will win it, but one major component of that war is oil.*

The war in Iraq, which has been 23 years in the making, is just the beginning of a worldwide war that "will not end in our lifetime." The reason our leaders are telling us the "war on terror will last 50 years" and that the US engagement in the Middle East is now a "generational commitment" is two-fold:

1. All the countries accused of harboring terrorists - Iraq, Iran, Syria, West Africa, Saudi Arabia - also happen to harbor large oil reserves.

2. Within 40-50 years, even these countries will see their oil reserves

almost entirely depleted. At that point, the "war on terror" will come to an end.

While the Middle East countries find themselves targets in the "war on terror", China, Russia, and Latin America find themselves targets in the recently declared and much more expansive "war on tyranny."

Whereas the "war on terror" is really a war for control of the world's oil reserves, this newly declared "war on tyranny" is really a war for control of the world's oil distribution and transportation chokepoints.

China and Russia have taken notice of these declarations and seem to be making preparations to defend themselves.

China has also strengthened it's ties to oil-rich Venezuela while engaging in an undeclared oil-war with long time rival and US ally Japan.

This type of large-scale, long-term warfare will likely require a massive expansion of the military draft.

The strategy - as distasteful as it may be - is characterized by a Machiavellian logic. Given the thermodynamic deficiencies of the alternatives to oil, the complexity of a large scale switch to these new sources of energy, and the wrenching economic and social effects of a declining energy supply, you can see why our leaders view force as the only viable way to deal with the coming crisis.

Of course, the US is not the only nation that needs affordable oil. Not by a long shot. France, Germany, Russia, and China all need it also. While these countries may not be able or willing to directly confront the US on the battlefield, they are more than willing to attack the US financially. The US may have the world's most deadly cluster bombs, but the EU has the world's most valuable currency, and intends to wield it as a strategic economic weapon to offset US firepower.

"How do I Know This Isn't Just a 'Manufactured Crisis'?"

Some people claim Peak Oil and its ramifications are really part of a "global conspiracy" to fool the American people into accepting various shadowy plots for "world domination and depopulation."

If this was the case, Bush and Kerry likely would have made Peak Oil a topic of their debates.

If Peak Oil was all a manufactured crisis, you would be hearing about it every night on the news and reading about it every morning in the paper. You would definitely be hearing about at least as much as you are hearing about the Social Security crisis. The issue and surrounding ramifications would most certainly not have been deemed one of the most censored stories of the year by the folks at Project Censored.

If you understand how energy and the economy function, you can understand the reluctance of the mainstream media to report honestly about Peak Oil. Higher oil prices are directly correlated to a lower Dow Jones index. Thus, unlike the manufactured crisis surrounding Social Security, a manufactured crisis surrounding oil supplies would result in a crash of the markets, not a boost. This would bad for the corporate interests some claim are behind the "fake Peak Oil crisis."

The people who believe these theories often voice vehement opposition to "Bush and his neocon-cronies." What they fail to realize is that they are the ones not residing in the "reality based community."

Finally, even if it is all a conspiracy, you and I are still going to have to deal with it as though it were very, very real. For instance, if you work for an

extremely powerful airline or large auto manufacturer that goes out of business due to high oil prices, what are you going to tell your boss upon getting your pink-slip? "Hey boss, don't you know this is all part of a manufactured crisis by the global elite to promote world domination?"

"Is There Any Reason to Remain Optimistic/Hopeful?"

If what you really mean is, "Is there any way technology or the market or brilliant scientists or comprehensive government programs are going to hold things together or solve this for me or allow for business to continue as usual?", the answer is no.

On the other hand, if what you really mean, "Is there any way I can still have a happy, fulfilling life in spite of some clearly grim facts?", the answer is yes, but it's going to require a lot of work, a lot of adjustments, and probably a bit of good fortune on your part.

"What Can I do to Prepare?"

Two things:

Number 1: Convince your friends and family this really is happening;

Number 2: Get as self-sufficient as possible, as soon as possible. Get off the grid, out of debt, out of the city,learn to grow as much of your own food as you can, and get ready for some very interesting times.

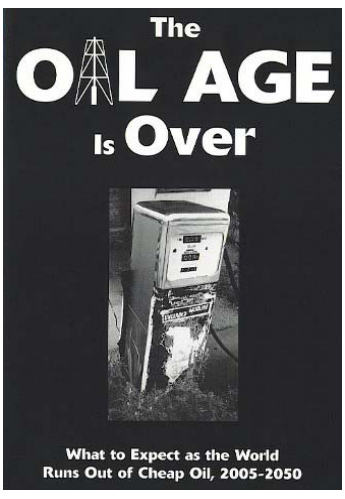
Good luck,

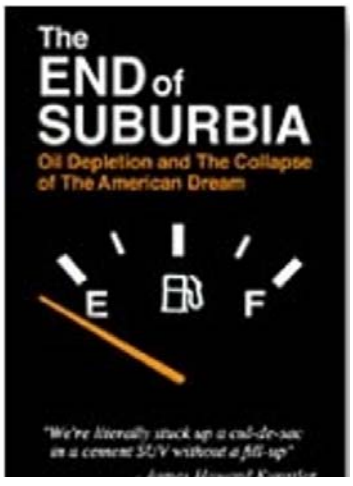
Matt Savinar
Last Revised: 2/25/2005

Has This Site Opened Your Eyes?

Consider Supporting It While Further Educating Yourself About This Urgent Issue By Purchasing Something From Our Store:

(All Purchases Come With a 30-Day Money Back Guarantee)





The Oil Age is Over **and** ***End of Suburbia*** **now in stock and ready to ship;**

"For my part, whatever anguish of spirit it may cost, I am willing to know the whole truth; to know the worst and provide for it."
-Patrick Henry (1776)

Copyright 2004, Matt Savinar: All Rights Reserved

Privacy Policy