

The Oil Age Is Over



**What to Expect as the World
Runs Out of Cheap Oil, 2005-2050**

By Matt Savinar, J.D.

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Part I: Introduction

“Perhaps the sentiments contained in the following pages are not yet sufficiently fashionable to procure them general favor; a long habit of not thinking a thing wrong gives it a superficial appearance of being right, and raises at first a formidable outcry in defense of custom. But the tumult soon subsides. Time makes more converts than reason.”

-Thomas Paine, *The Common Sense* (1776)

“I am aware that many object to the severity of my language; but is there not cause for severity? I will be as harsh as truth. On this subject I do not wish to think, or speak, or write, with moderation. No! No! Tell a man whose house is on fire to give a moderate alarm; tell him to moderately rescue his wife from the hands of the ravisher; tell the mother to gradually extricate her babe from the fire into which it has fallen -- but urge me not to use moderation in a cause like the present. The apathy of the people is enough to make every statue leap from its pedestal, and to hasten the resurrection of the dead.”

-William Lloyd Garrison, *The Liberator* (1831)

My fellow American,

Civilization as we know it is coming to an end. This is not the wacky conclusion of a religious cult, but rather the result of diligent analysis sourced by hard data and the scientists who study global “Peak Oil” and related geopolitical events.¹ So who are these nay-sayers who claim the sky is falling? Conspiracy fanatics? Apocalypse Bible prophecy readers? [To the contrary, they are some of the most respected, highest-paid geologists and experts in the world.](#) And this is what's so scary.²

The ramifications of Peak Oil are so serious that George W. Bush's Energy Advisor, [Matthew Simmons](#), has acknowledged that, “The situation is desperate. This is the world's biggest serious question,”³ while comparing the crisis to the perfect storm: “If you read *The Perfect Storm*, where a freak storm materializes out of the convergence of three weather systems, our energy crisis results from the same phenomenon.”⁴ Secretary of Energy [Spencer Abraham](#) has echoed Simmons's sentiments, “America faces a major energy supply crisis over the next two decades. The failure to meet this challenge will threaten our nation's economic prosperity, compromise our national security, and will literally alter the way we lead our lives.”⁵

If you are like 99% of the people reading this letter, you have never heard of the term “Peak Oil.” I had not heard the term until a few months ago. Since learning about Peak Oil, I have had my worldview, and basic assumptions about my own individual future, turned completely upside down.

A little about [myself](#): A few months ago, I was a 25-year-old law school graduate who found out he had just passed the California Bar Exam. I was excited about a potentially long and prosperous career in the legal profession, getting married, having kids, contributing to my community, and living the “American Dream.” Peak Oil has caused me to seriously question how realistic this vision of my life is.

Whether you're 25 or 75, an attorney or an auto mechanic, what you are about to read may shake the foundations of your life. Below you will find a brief explanation of Peak Oil, the ramifications, and what we can do about it. For the sake of simplicity, I have designed the following explanation for somebody completely new to Peak Oil. I have written this book with my fellow Americans in mind, as we are the most oil-dependant people in the world. The information, however, is applicable to people of all nations. If you would like to learn more, please consult my Website <http://www.lifeaftertheoilcrash.net>

Part II: Peak Oil and the Ramifications for Industrial Civilization

“Deal with reality, or reality will deal with you.”

-Dr. Colin Campbell (2003)

“Your failure to be informed does not make me a wacko.”

-John Loeffler (2004)

“The truth will set you free, but first it will make you sick.”

-Unknown

“The world we know is like the *Titanic*. It is grand, chic, high-powered, and it slips effortlessly through a frigid sea of icebergs. It does not have enough lifeboats, and those that it has will be poorly employed. If we do not change course, disaster, perhaps catastrophe, is almost inevitable. There is a reason why interest in the *Titanic* has been revived; it’s the perfect metaphor for our planet. On some level we know: we are on the *Titanic*. We just don’t know we’ve been hit.”

-John Brandenburg, *Dead Mars, Dying Earth*

“Think of the Earth as a living organism that is being attacked by billions of bacteria whose numbers double every forty years. Either the host dies, or the virus dies, or both die.”

-Gore Vidal

1. What is "Peak Oil"?

All oil production follows a bell curve, whether in an individual field or on the planet as a whole. On the upslope of the curve production costs are significantly lower than on the downslope when extra effort (expense) is required to extract oil from reservoirs that are emptying out. Put simply: oil is plentiful and cheap on the upslope, scarce and expensive on the downslope. The peak of the curve coincides with the point at which the world's endowment of oil has been 50% depleted. "Peak Oil" is the industry term for the top of the curve. 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 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 than it was in 1980. Consequently, worldwide demand for oil will outpace worldwide production of oil by a significant margin.

The more demand for oil exceeds production of oil, the higher the price goes. Ultimately, the question is not "When will we run out of oil?" but rather, "When will we run out of **cheap** oil?"

2. When will Peak Oil occur?

The most wildly optimistic estimates indicate 2020-2035 will be the year in which worldwide oil production peaks. Generally, these estimates come from government agencies such as the United States Geological Survey, oil companies, or economists who do not grasp the dynamics of resource depletion. Even if the optimists are correct, we will be scraping the bottom of the oil barrel within the lifetimes of most of those who are middle-aged today.⁶

A more realistic estimate is between the years 2004-2010.⁷ Unfortunately, we won't know we hit the peak until 3-4 years after the fact. Even on the upslope of the curve, oil production varies a bit from year to year. It is possible that worldwide oil production peaked in the year 2000 as production has dipped every year since. The energy industry has quietly acknowledged the seriousness of the situation. For instance, in an article recently posted on the Exxon-Mobil Exploration homepage, company president Jon Thompson stated:

By 2015, we will need to find, develop and produce a volume of new oil and gas that is equal to eight out of every 10 barrels being produced today. In addition, the cost associated with providing this additional oil and gas is expected to be considerably more than what the industry is now spending.

Equally daunting is the fact that many of the most promising prospects are far from major markets — some in regions that lack even basic infrastructure. Others are in extreme climates, such as the Arctic, that present extraordinary technical challenges.⁸

If Mr. Thompson is that frank in an article posted on the Exxon-Mobil Webpage, one wonders what he says behind closed doors. The Saudis are no less frank than Mr. Thompson when discussing the imminent end of the oil age. They have a saying that goes, "My father rode a camel. I drive a car. My son flies a jet airplane. His son will ride a camel." As Figure 2 graphically illustrates, the Saudis are not exaggerating.

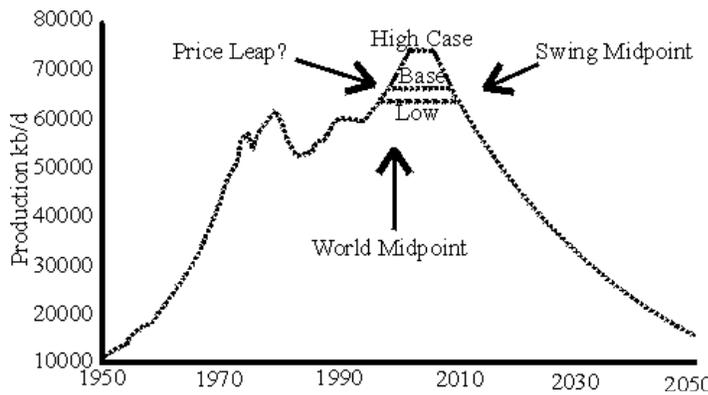


Figure 2. World Oil Production 1950-2050
(Source: Dr. C.J. Campbell, Petroconsultants, 1996;)

3. **Big deal. If gas prices get high, I'll just carpool or get one of those hybrid cars. Why should I be concerned?**

Almost every current human endeavor — from transportation, to manufacturing, to electricity, to plastics, and especially food and water production — is inextricably intertwined with oil and natural gas supplies.⁹

A. Oil and Food Production

In the US, approximately 10 calories of fossil fuels are required to produce 1 calorie of food.¹⁰ If packaging and shipping are factored into the equation, that ratio is raised considerably. This disparity is made possible by an abundance of cheap oil. Most pesticides are petroleum- (oil) based, and all commercial fertilizers are ammonia- based. Ammonia is produced from natural gas, a fossil fuel subject to a depletion profile similar to that of oil. Oil has allowed for farming implements such as tractors, food storage systems such as refrigerators, and food transport systems such as trucks. Oil-based agriculture is primarily responsible for the world's population exploding from 1 billion at the middle of the 19th century to 6.3 billion at the turn of

the 21st. As oil production went up, so did food production. As food production went up, so did the population. As the population went up, the demand for food went up, which increased the demand for oil.

Within a few years of Peak Oil occurring, the price of food will skyrocket as the cost of producing, storing, transporting, and packaging it will soar.

B. Oil and Water Supply

Oil is also needed to deliver almost all of our fresh water. Oil is used to construct and maintain aqueducts, dams, sewers, wells, as well as to pump the water that comes out of our faucets. As with food, the cost of fresh water will soar as the cost of oil soars.

C. Oil and Health Care

Oil is also largely responsible for the advances in medicine that have been made in the last 150 years. Oil allowed for the mass production of pharmaceutical drugs, surgical equipment and the development of health care infrastructure such as hospitals, ambulances, roads, etc. . . .

D. Oil and Everything Else

Oil is also required for nearly every consumer item, sewage disposal, garbage disposal, street/park maintenance, police, fire services, and national defense. Thus, the aftermath of Peak Oil will extend far beyond how much you will pay for gas. Simply stated, you can expect: economic collapse, war, widespread starvation, and a mass die-off of the world's population.

4. What do you mean by "die-off"?

Exactly what it sounds like. [It is estimated that the world's population will contract to between 500 million and 2 billion during the Oil Crash.](#) (Current world population: 6.4 billion)

5. Are you serious? That's as much as 90% of our current population. How could that many people perish? Where does that estimate come from?

That estimate comes from biologists who have studied what happens to every species when it depletes a key resource in its environment. Two notable examples from the nonhuman world are bacteria and reindeer. Two notable examples from human history are the Irish potato famine and the population crash on Easter Island.

Example A: Bacteria

Bacteria in a Petri dish will grow exponentially until they run out of resources, at which point their population will crash. Only one generation prior to the crash, the bacteria will have used up half the resources available to them. To the bacteria, there will be no hint of a problem until they starve to death. Before that happens, the bacteria will begin cannibalizing each other in last-ditch efforts to survive.

But humans are smarter than bacteria, right? You would think so, but the facts seem to indicate otherwise. The first commercial oil well was drilled in 1859. At that time, the world's population was about 1 billion. Less than 150 years later, our population has exploded to 6.4 billion. In that time, we have used up half the world's recoverable oil. Of the half that's left, most will be very expensive to extract. If the experts are correct, we are less than one generation away from a crash. Yet to most of us, there appears to be no hint of a problem. One generation away from our demise, we are as clueless as bacteria in a Petri dish.

Example B: Reindeer on St. Matthew Island

In 1944, researchers moved a population of 29 reindeer to St. Matthew Island, an unoccupied island in the Bering Sea. Luckily for the reindeer, the island had an abundant supply of their favorite food: lichen. With food readily available, the reindeer population exploded to 6,000 by 1963. Reindeer were everywhere to be seen on the island. By 1966, however, the only things to be seen on the island were reindeer skeletons. In those three years, the reindeer had consumed all of the island's lichen. As a result, the reindeer population then crashed in 3 years to a total of 41 females and one male, all in miserable condition. That is a 97.5% reduction.

Take a look at Figure 3, which charts the reindeer population on St. Matthew Island from 1944 to 1966. Compare the shape of Figure 3 with the shape of Figure 4, which charts the human population on Earth from the year 1400 to the year 2000. You will notice that both charts follow an "L" curve. . With access to an abundant (fossil-fuel-powered) food supply, our population has grown just as the reindeer population grew when it had access to an abundant food source.

The reindeer on St. Matthew Island relied almost exclusively on the island's lichen supply to sustain themselves, in much the same way that we rely on fossil fuels to sustain ourselves. When the Earth's supply of readily available fossil fuels runs out, the result for us will likely be the same as it was for the reindeer when the island's supply of readily available lichen ran out.

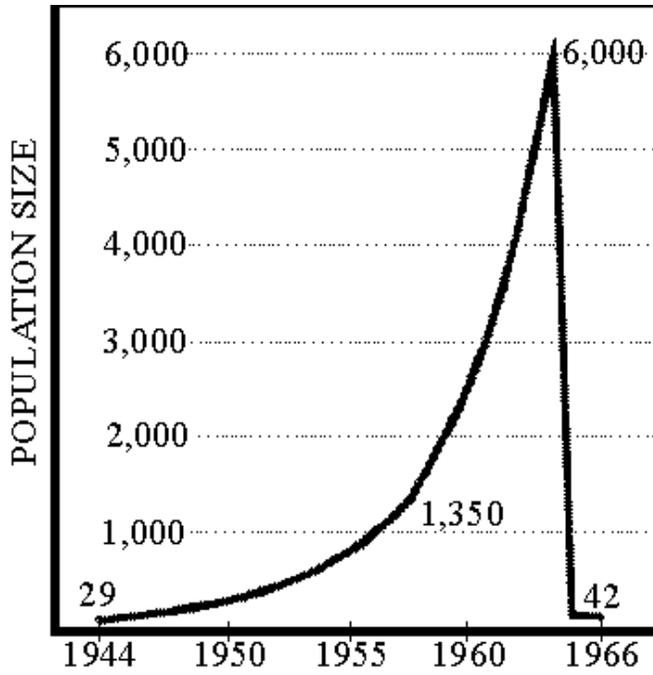


Figure 3: Reindeer Population, St. Matthew Island, 1944-1966¹¹

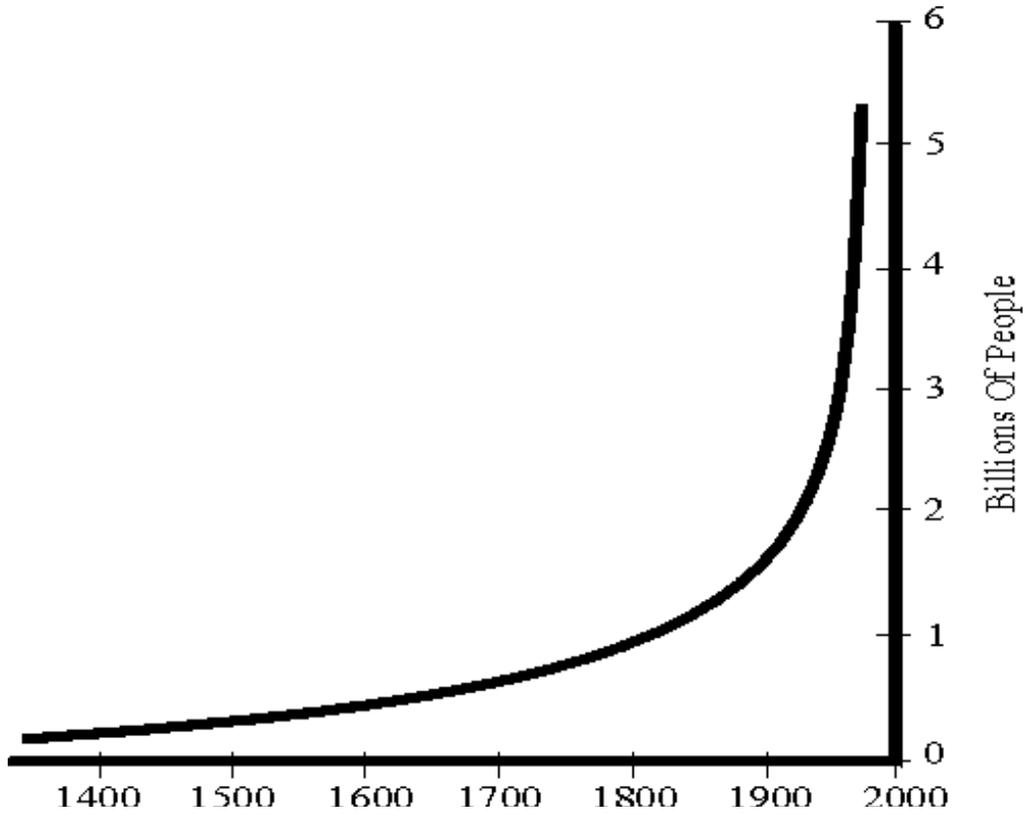


Figure 4: Human Population Growth, 1400 AD - 2000 AD:¹²

I know what you're thinking: "But we're human beings with higher consciousness. Certainly we can figure out a way to avoid the fate suffered by a group of reindeer. We have computers and all sorts of technology to help us adapt." Unfortunately, as the next two examples demonstrate, our high consciousness has not helped us avoid the fate of the reindeer in response to our previous resource shortages. Additionally, while we have technology that might help us adapt, we also have weapons of mass destruction that might help us destroy ourselves.

Example C: Irish Potato Famine

Beginning in the mid-1700s, the British encouraged — and the Irish developed — a near-total dependency upon a single dietary mainstay, the potato. In less than 100 years, the population of the island grew from 2 million people to more than 8 million. Then suddenly in 1845, a parasitic fungus turned the potatoes into sticky, inedible, mucous globs. The Irish were so dependant on the potato that the famine crippled their ability to develop alternative crops. Within a generation, the country was devastated, more than half the population died or emigrated, and those who remained were reduced to a poverty that diminished only a century later.¹³

As ghastly as the famine was, its severity was offset by the fact that many of the Irish could emigrate to the land of plenty: America. This allowed those who remained to make the most of what little resources were left. Like the Irish of the 18th and 19th centuries, our population has nearly quadrupled since the introduction of a single resource. Like the Irish, we are totally dependant on that resource. Unlike the Irish, we have nowhere else to go when that resource is no longer readily available.

Example D: Easter Island

Over the course of history, many human populations have suffered from die-offs. The die-off most analogous to our current situation is the one that took place on Easter Island during the early 18th century. Easter Island was discovered by western civilization in 1722 when Dutch explorer Jacob Roggeveen landed on the island. At the time, Roggeveen described the island as a wasteland. The islanders he encountered led a particularly primitive existence, even by 18th-century standards. The island had no firewood, few species of plant life, and no native animals larger than insects. The islanders possessed no wheels, no draft animals, few tools, and only 3-4 flimsy, leaky canoes.

Despite the barren existence, Easter Island was populated with huge, elaborately constructed, stone statues. Roggeveen and his crew were completely perplexed by these statues, as it was clear whoever built them had tools, resources, and organizational skills far more advanced than the islanders they encountered. What happened to these people?

According to archeologists, Easter Island was first colonized by Polynesians sometime around the year 500 AD. At the time, the island was a pristine paradise with lush forests. Under these conditions, the island's population grew to as much as 20,000. During this population bloom, the islanders used wood from the forest trees to power virtually every aspect of a highly complex society. They used the wood for fuel, canoes, houses, and; of course, for transporting the huge statues. With each passing year, the islanders had to cut down more and more trees as the statues became larger and larger.

As the trees disappeared, the islanders ran out of timber and rope to transport and erect their statues; springs and streams dried up, and wood was no longer available for fires. The food supply was also diminished as land birds, large sea snails, and many seabirds disappeared. As timber for building seagoing canoes vanished, fish catches declined and porpoises disappeared from the dinner table. With the food supply greatly diminished, the islanders resorted to cannibalism to sustain themselves. The practice became so common that the islanders would insult each other by saying, "The meat of your mother sticks between my teeth."¹⁴

Before long, local chaos replaced centralized government, and a warrior class took over from the hereditary chiefs. By around 1700, the population began to crash toward between one-quarter and one-tenth of its former number. People took to living in caves for protection against their enemies and the statues were torn down in clan warfare.¹⁵ Once the home of a highly complex society, Easter Island had turned into an atoll of the barbaric.

As UCLA Medical School Professor Jared Diamond has explained:

Easter Island looks like a metaphor for us today. The islanders were isolated in the middle of the ocean with nobody to turn for help, with nowhere to flee once the island collapsed. In the same way today, one can look at Planet Earth in the middle of the galaxy, and if we too get into trouble, there's no way we can flee, and no people to whom we can turn for help out there in the galaxy.¹⁶

D. Conclusion

While our situation is distinguishable from these examples in some (rather superficial) ways, the parallels are undeniable. For most of human history, our population has doubled every 32,000 years. Now, we double every 35 years. No biological organism — whether it's bacteria, reindeer, or human beings — can continue to grow at this rate. There are a number of factors contributing to our population explosion, but first and foremost is the increased availability of food the oil-powered agriculture has created. Even if the optimists are correct, we will have exhausted the Earth's supply of readily available oil by 2035. At that point, our population will almost certainly crash. In theory, we can avoid a crash if we voluntarily reduce our population

and consumption levels. Unfortunately, no biological organism has ever figured out how to reduce its population in a gradual, voluntary manner. In every instance of a resource shortage, the result is the same: a population crash characterized by violence, illness and cannibalism.

6. I still can't imagine that number of deaths. It's just too ghastly to imagine. Only 10% of us are going to make it? How can that possibly be?

I know how you feel. This is all very difficult to handle, both emotionally and intellectually. As former UK environmental minister Michael Meacher recently stated, "It's hard to envisage the effects of a radically reduced oil supply on a modern economy or society. The implications are mind-blowing."¹⁷ Perhaps the following explanation, while considerably oversimplified, will help illustrate the future we are marching towards.

As explained above, worldwide oil production follows a bell curve. Thus, if the year 2000 was the year of peak production, then oil production in the year 2025 will be about the same as it was in the year 1975. The population in the year 2025 is projected to be roughly 8 billion.¹⁸ The population in 1975 was roughly 4 billion.¹⁹ Since oil production essentially equals food production, this means that we will have 8 billion people on the planet but only enough food for 4 billion.

With that in mind, visualize the following situation: you, me, and six other people were locked in a room, with only enough food for four of us. At least four of us will die from starvation. Another one or two will likely die as we all fight each other for what little food we have. That's what will happen if we are fighting with just our fists. Give each of us weapons, and you can imagine what that room will look like when we're done with each other.

7. Not to be insensitive, but I'm sure that most of those deaths will take place in the third world. The US will likely have the bulk of the survivors, right?

Almost certainly not. By the year 2050, the US will only have enough arable land to produce food for half its population, and just barely enough water. This is not accounting for the effects of oil depletion, which will severely exacerbate the situation, as will globalization.

A. Population Increase

The current population in the US is a little under 280 million. The population has been increasing at a rate of 1.1% per year, not including illegal immigration. At this rate, the US

population will reach 520 million by the year 2050.²⁰ If illegal immigration continues unabated, that number will increase drastically.

B. Arable Land per Person

As urbanization and soil erosion continue unabated, the US is projected to only have 290 million acres of arable land by 2050. With a population of 520 million, that means that each person will only have .6 acres of arable land from which they can derive their food. Agronomists stress, however, that a person needs 1.2 acres of arable land for a productive diet.²¹ In other words, there will only be enough arable land to feed half of us, not accounting for the effects of increased immigration and decreased availability of fossil fuels.

C. Drinking Water

Americans currently consume approximately 1,500 gallons of water per day/per person to meet all their needs. (This includes industry, transportation, national defense, food production, etc., not just the water you drink). Hydrologists estimate that a human needs a minimum of 700 gallons of water per day/per person to meet their basic needs. Even if the US improves its water management, we will only be able to deliver 700 gallons per day/per person by 2050 — just barely enough to keep our people alive.

D. Globalization

The nations of the world are now so dependant on each other that the US cannot insulate itself from crisis around the globe. Our economic and industrial entanglements with China may prove particularly problematic. For instance, in a November 2003 article entitled, “China's Rising Grain Prices Could Signal a Global Food Crisis,” environmentalist Lester Brown explained:

When China turns to the world market for grain, it will need 30, 40, 50 million tons, more than anyone else in the world imports. They will first come to US markets, which is going to make a fascinating geopolitical situation.

With a 100 billion-dollar trade surplus with the United States in 2002, China has enormous purchasing power to buy US grain, which could drive up prices by two hundred percent. Already an increase in Chinese demand for American soybeans, plus last year's bad soybean harvest, have seen prices jump from five dollars a bushel to eight dollars a bushel.²²

Put simply: China owns us. When they demand we give them the food that we need to feed our own people, you are going to see tensions rise considerably.

E. Conclusion

The bottom line is this: if we don't start taking these issues seriously, our status as Americans will do nothing to save us from the fate of the rest of the world.

8. Clearly, we have a real problem, but you're describing the worst-case scenario, right?

I'm describing the most likely scenario. The worst-case scenario is extinction, as the wars that will accompany the worldwide oil shortage will likely be the most horrific and widespread that humanity has ever experienced. We will discuss this more in Part VII.

9. Where are you getting this information from? Who else is talking about Peak Oil? What type of backgrounds do they have? How do I know they're credible, not crazy?

When you are done with this book, I encourage you to do a Google search for "Peak Oil." You will find, much to your dismay as well as my own, that everything you read in this book is supported by an analysis of hard facts reported by highly respected sources. Some of the more notable sources are described below. As you will see, this is not the usual "end of the world/the sky is falling" crowd.

A. Petroconsultants Pty., Ltd

In 1995, Petroconsultants Pty., Ltd., one of the largest and most respected oil industry analysis and consulting firms, released a document called, "World Oil Supply 1930-2050." This report, which was written for oil industry insiders and cost a whopping \$32,000 per copy, predicted that global oil production will peak around the year 2000 and decline by 25% by 2025.²³

B. Dr. Colin J. Campbell, Former Exploration Geologist for Texaco and Chief Geologist for Ecuador

In a February 2002 report Dr. Campbell explained:

Peak Oil is a turning point for mankind. The economic prosperity of the 20th Century was driven by cheap, oil-based energy. Everyone had the equivalent of several unpaid and unfed slaves to do his work for him, but now these slaves are getting old and won't work much longer. We have an urgent need to find how to live without them.²⁴

C. Dr. David Goodstein, Professor of Physics and Vice Provost of Cal Tech University

In his recently released book, *Out of Gas: The End of Oil*, Dr. Goodstein argues forcefully that the worldwide production of oil will peak soon, possibly within this decade. That will be followed by declining availability of fossil fuels that could plunge the world into global conflicts as nations struggle to capture their piece of a shrinking pie. In a recent interview with ABC news, Dr. Goodstein had this to say about Peak Oil:

Best case? The worldwide disruptions that follow the peak serve as a global wake-up call. A methane-based economy is successful in bridging the gap temporarily while nuclear power plants are built and the infrastructure for other alternative fuels is put in place. The world watches anxiously as each new Hubbert's peak estimate for uranium and oil shale makes front-page news.

Worst case? After the peak, all efforts to produce, distribute, and consume alternative fuels fast enough to fill the gap between falling supplies and rising demand fail. Runaway inflation and worldwide depression leave many billions of people with no alternative but to burn coal in vast quantities for warmth, cooking, and primitive industry. The change in the greenhouse effect that results eventually tips Earth's climate into a new state hostile to life. End of story.²⁵

D. Matthew Simmons, Energy Advisor to George W. Bush

In an August 2003 interview with FromTheWilderness.com publisher Michael Ruppert, Mr. 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, 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.²⁶

10. Those people sound credible, but I want to hear it from the horse's mouth. What does Dick Cheney have to say about this?

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." Cheney ended on an alarming note, "That means by 2010 we will need on the order of an additional 50 million barrels a day."²⁷ This is equivalent to six times the amount of oil produced per day by Saudi Arabia, the world's leading oil producer.

A report commissioned by Cheney and released in April 2001 was no less rosy, "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."²⁸

11. Can you give me a rundown of what to expect in the years to come?

Here are two timelines — one optimistic and one pessimistic.

A. Optimistic

1-5 years post-peak: Major recession comparable to those experienced during the artificially created oil shortages of the 1970s.

5-15 years post-peak: Recession worsens into a second Great Depression.

15-25 years post-peak: Society begins to collapse. Conditions in the US begin to resemble those in the modern-day former USSR.

25-50 years post-peak: Societal collapse worsens. Conditions within the US begin to resemble those in modern day Iraq: extremely high unemployment, high crime, banditry, collapsed electrical grid, food and water shortages. Many localities resemble modern-day third-world countries such as Liberia or Bosnia.

50-100 years post-peak: Society begins to stabilize — albeit in a form drastically different — than anything most of us have imagined.

B. Pessimistic

10-25 years post-peak: As oil becomes scarcer, people resort to burning coal to power primitive forms of industry, which greatly accelerates global climate change. Crops fail, mass starvation sets in. World-wide wars break out as nations scramble for what little cheap oil is left. At some point, a nuclear power such as the US or Russia decides it has nothing to lose by attempting to win an all-out global nuclear war.

12. Is it possible that we have already hit Peak Oil and are now in the first stages of the Oil Crash?

Yes. Ample evidence exists that we are already crashing:

A. Declining Oil Production

In May 2003, at the Paris Peak Oil Conference, Princeton Professor Kenneth Deffeyes, author of *Hubbert's Peak: The Impending World Oil Shortage*, explained that Peak Oil actually arrived in 2000 by noting that production has actually been declining since that time.²⁹

B. Drastically Revised Estimates of Oil & Natural Gas Reserves

In October 2003, *CNN International* reported that a research team from Sweden's University of Uppsala has discovered worldwide oil reserves are as much as 80% less than previously thought, that worldwide oil production will peak within the next 10 years, and once production peaks, gas prices will reach disastrous levels.³⁰ In January 2004, shares of major oil companies fell after Royal Dutch/Shell Group shocked investors by slashing its "proven" reserves 20 percent, raising concerns others may also have improperly booked reserves.³¹ A month later, energy company El Paso Corporation announced it had cut its proven natural gas reserves estimate by 41 percent.³²

C. High Oil and Gas Prices

In March 2004, the price of oil hit \$38 a barrel, the highest since 1991. The average nationwide price of a gallon of gasoline in America reached a record high of \$1.77 this month.³³ In some parts of the country (San Francisco, CA.), gas has already hit \$2.40 a gallon. Many analysts are predicting gas prices will exceed \$3.50 a gallon by the summer of 2004.

D. High Unemployment

You can think of "Peak Oil Production" as a synonym for "Peak Job Creation." As of December 2003, the "adjusted" unemployment, which has been squeezed out of as much meaning as conceivably possible, still hovers in the 6% range. However, if you factor in the quality of employment, then the real numbers are closer to 12%-15%. We need to create over 250,000 new jobs per month just to keep up with population growth. Creating new jobs is essentially impossible now that oil production is peaking. Without an excess supply of energy, the economy cannot grow, and the necessary number of jobs cannot be consistently created.

E. Blackouts

The rolling blackouts experienced in California during fall of 2000, the massive East Coast blackout of August 2003 and the various other massive blackouts that occurred throughout the world during late summer of 2003 are simply a sign of things to come.

F. Reduced Food and Chemical Production

World grain production has dropped every year since 1996-1997.³⁴ World wheat production has dropped every year since 1997-1998. Recent food price hikes in China could be the sign of a coming world food crisis brought on by global warming and increasingly scarce water supplies among major grain producers.³⁵ Last year in the US, a quarter of the US fertilizer factories shut down permanently, and another quarter were idled until prices settled back following a spike in natural gas prices.³⁶

G. Biological Indicators of an Imminent Crash are Present

If you want to predict when any population is within one generation of a mass die-off, all you have to do is look to three criteria. Once a population has met these criteria, a die-off is all but assured.

1. Half of a Key Resource is Depleted.
2. Per-capita Availability of that Resource Begins to Decline.
3. Rate of Population Growth Begins to Slow.

In our case, we have met all three of these criteria:

1. We have used up approximately half of the world's original endowment of oil.

2. Per-capita production of oil peaked in 1970's. It has continually declined since then.
3. The world's rate of population growth peaked in the 1964 at 2.2% per year.³⁷ By 1985, it was down to 1.7%. By 2000, it was down to 1.4%. By 2001, it was down to 1.3%. If this rate of decrease continues, it will be down to 1% by 2015.³⁸

People often cite this fact as a positive sign. After all, they say, isn't slowing the rate of population growth the first step towards voluntarily reducing the population? Isn't this a sign we might be able to avert a crash?

What they fail to understand is that no species, anywhere in nature, throughout all of history, has managed to voluntarily reduce their population. In every instance, once the rate of growth hits zero, the population crashes. Thus, the fact that our rate of growth is slowing down is as ominous as it gets! It means that a crash is now scientifically unavoidable.

If we manage to avoid a crash, we will be the first biological species (human or non-human) to exhibit these three symptoms and not crash.

H. Conclusion

If you were to look at any one of these pieces of evidence in isolation, it would not tell you much about the situation the world is in. However, when you look at all of them together in the context of Peak Oil, the fact that we are already crashing becomes obvious.

13. What about the oil in the Arctic National Wildlife Preserve (ANWR)? If the environmentalists got out of the way, couldn't we just drill for oil there?

At current rates of oil consumption, the ANWR contains enough oil to power the US for only six months.³⁹ The fact that it is being touted as a "huge" source of oil underscores how serious our problem really is.

14. What about the oil under the Caspian Sea? I heard there was a massive amount of oil underneath it.

As recently as September 2001, the Caspian Sea was thought to be the oil find of the century. By December 2002, however, just after US troops took Afghanistan, British Petroleum announced disappointing Caspian drilling results. The "oil find of the century" was little more than a drop in the ocean. Instead of earlier predictions of oil reserves above 200 billion barrels,

the US State Department announced, "Caspian oil represents 4% of world reserves. It will never dominate the world's markets."⁴⁰

Furthermore, the area has the potential for wars and disruptions that could make the Persian Gulf look tame by comparison. Unstable countries surround the Caspian, including Russia, Kazakhstan, Turkmenistan, Uzbekistan, Iran, and Azerbaijan. Proposed pipelines to carry the oil run through hotspots such as Afghanistan, Pakistan, Turkey, China, Russia, Ukraine, Bulgaria, and Kyrgyzstan. Meanwhile, the region is isolated and unforgiving, so the expenses associated with drilling would be enormous.⁴¹

Despite these monumental obstacles, oil is becoming so scarce that even the disappointingly modest amounts located in the Caspian Sea will remain extremely important from a geopolitical standpoint.

15. What about so-called "non-conventional" sources of oil? Doesn't Canada have an enormous amount of this type of oil?

So called "non-conventional" oil, such as the oil sands found in Canada and Venezuela, is incapable of replacing conventional oil for the following reasons:

1. Non-conventional oil has a very poor energy/profit ratio, and is extremely difficult to produce. It takes about two barrels of oil in energy investment to produce three barrels of oil equivalent from those resources.⁴² The cost of Canadian non-conventional oil projects is so high that in May 2003, the oil industry publication *Rigzone* suggested, "President Bush, known for his religious faith, should be praying nightly that Petro-Canada and other oil sands players find ways to cut their costs and boost US energy security."⁴³
2. The environmental costs are horrendous and the process uses a tremendous amount of fresh water and also natural gas, both of which are in limited supply.
3. Although non-conventional oil is quite abundant, its rate of extraction is far too slow to meet the huge global energy demand. Dr. Colin Campbell estimates that combined Canadian and Venezuelan output of non-conventional oil will be 2.8 million barrels per day (mbd) in 2005, 3.6 mbd in 2012, and 4.6 mbd in 2020. These are drops in the bucket, given today's consumption of 75 mbd, which is expected to increase to 120 mbd by 2020.⁴⁴

16. I just read an article that states that known oil reserves keep growing. What do you have to say about that?

That article is most likely citing data from sources that are about as reliable as an Enron accounting team.

A. United States Geological Survey (USGS) and Energy Information Agency (EIA) "Cooking the Books"

In recent years, the USGS and the EIA have revised their estimates of oil reserves upwards. This has led many observers and commentators to believe that the possibility of severe oil shortages is a thing of the past.

While USGS and EIA reports on past production are largely reliable, their predictions for the future are largely propaganda. They admit this themselves. For instance, after recently revising oil supply projections upward, the EIA stated, "These adjustments to the estimates are based on **non-technical** considerations that support domestic supply growth to the levels necessary to meet projected demand levels."⁴⁵

In other words, they predict how much they think we're going to use, and then tell us, "Guess what, nothing to worry about — that is how much we've got!"

B. Certainly OPEC Wouldn't Cook the Books?!

The USGS and the EIA aren't the only parties guilty of "cooking the books." For instance, during the late 1980s, several OPEC countries drastically increased their reported oil reserves with no corresponding major oil discoveries. Why was this? The reason is that an individual OPEC member's quotas are proportional to their proven reserves. Since the larger the quota, the more money they can earn, this obviously gave them a strong incentive to 'adjust' their figures.⁴⁶ As Dr. Campbell and Jean Laherrere have explained, "such reserve growth is an illusion."⁴⁷

C. Massive Incentives to Accept the Cooked Books

Oil companies have massive psychological and financial incentives to accept these upward estimates. We tend to see what we want to see. Oil companies, politicians, and government agencies all want to see growth because our economy is based on it. If a report comes out saying oil reserves have grown, it will likely be embraced.

17. Is it possible that there is still more oil left to be discovered?

Almost certainly not. All available evidence indicates that we have already located most of the world's oil reserves:

A. World's Largest Oil Fields Are All Over 40 Years Old

According to a recent report from the Colorado School of Mines entitled *The World's Giant Oilfields*, the world's 120 largest oilfields produce almost 50% of the world's crude oil supply. The fourteen largest account for over 20%. The average age of these 14 largest fields is 43.5 years.⁴⁸ The reserves in the world's super-giant and giant oilfields are dwindling at an average rate of 4-6 percent a year.⁴⁹ The study concludes that "most of the world's true giants were found decades ago."

B. Very Few New Oil Discoveries Made in Recent Years

Over the past 20 years, despite investment of hundreds of billions of dollars by major oil companies, results have been alarmingly disappointing. Most of the world has now been digitally "X-rayed" using satellites, seismic data, and computers, in the process of locating 41,000 oil fields. Over 641,000 exploratory wells have been drilled, and virtually all fields which show any promise are well-known and factored into the one-trillion barrel estimate the oil industry uses for world oil reserves.⁵⁰

A recent study published in *Petroleum Review* suggests that production might not be able to keep up with demand by 2007.⁵¹ The study is a survey of oil "mega projects," which are projects containing more than 500 million barrels — or the amount of oil the world consumes in 5-10 days. The discovery rate for mega projects has dwindled to almost nothing. In 2000, 16 mega projects were discovered.⁵² In 2001 there were only 8 new discoveries, and in 2002 there were only 3 such discoveries.⁵³

It's not just "mega projects" that are no longer being found. Very few oil projects of any size are being discovered these days. Between 2001 and 2003, oil companies discovered less than half the reserves found between 1998 and 2000.⁵⁴ About 80% of the oil produced today flows from fields that were found more than 30 years ago, and the great majority of them are declining.⁵⁵

C. US Mainland as an Example

If you need any more convincing that there are no (or at least very few) large oilfields left to be discovered, consider the example of the US mainland. In the US we have been

searching for and extracting oil for longer than anyone, and have had more financial and technological muscle than anyone. If anyone could turn around oil declines, it would be us. US oil production peaked in 1970 and has consistently fallen since then. Despite maximum financial incentives, the finest technology in the world and a complete openness to innovation, the US has been unable to slow, never mind reverse, this 2%-per-year production decline.⁵⁶ Thirty-five years of money and research has neither slowed nor reversed the decline. Why then should the world fare any better? The truth is the world won't fare any better.⁵⁷

D. Conclusion

Matthew Simmons has stated succinctly, "All the big deposits have been found and exploited. There aren't going to be any dramatic new discoveries, and the discovery trends have made this abundantly clear."⁵⁸ On a similar note, according to Dr. David Goodstein, "Better to believe in the Tooth Fairy than the possibility of any more large oil discoveries."⁵⁹

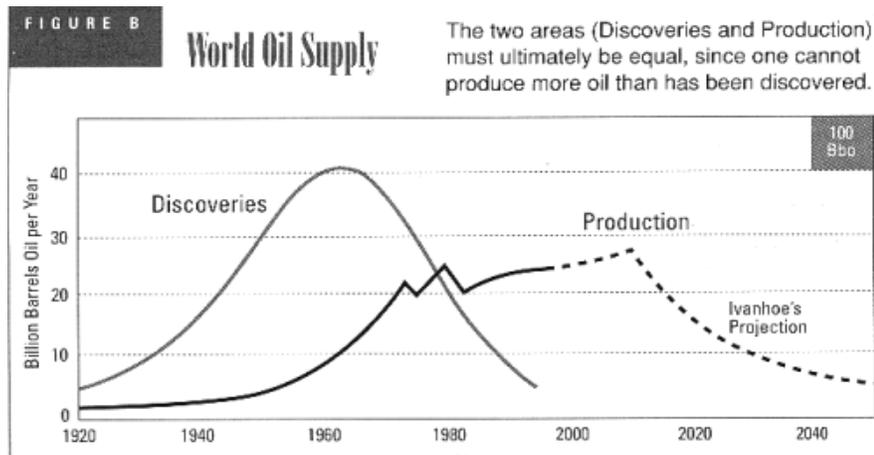


Figure 3. Production Mirrors Discovery

(Source: L.F. Ivanhoe, Archived at <http://www.oilcrisis.com/ivanhoe/>)

18. I know Simmons, Goodstein and others like them are experts with absolutely impeccable, bulletproof, credentials, but even experts turn out to be wrong sometimes. What if there is actually a huge amount of oil just waiting to be discovered? Wouldn't that make a difference?

Not really. Given exponential increases in consumption rates, even if we begin finding staggeringly massive amounts of oil tomorrow, the crisis would only be delayed by a few years. As University of Colorado physicist Albert Bartlett explains, given exponential consumption growth, "a doubling of the remaining resource results in only a small increase" in its life expectancy. Bartlett's recent mathematical analysis of oil production calculated that even if the

estimated total ultimate oil supply were **doubled** from 2,000 billion barrels to 4,000 billion barrels, it would only delay the peak by 25 years!⁶⁰ This means that if even the current amount we think we have left is tripled from 1,000 billion barrels to 3,000 billion barrels, we are still within one generation of disaster.

This fact, as much as anything else you read in this book, indicates the absolutely breathtaking scope of our problem.

19. But I just heard on the news that they made a huge oil discovery somewhere!

Nowadays, an oil discovery of 200 million barrels is considered huge, and will garner much attention in the press. The world uses 75 million barrels per day. So even a huge find is really only a 3- to 4-day supply. It will certainly make a lot of money for whoever found it, but it won't do much to soften the oil shocks.

20. Is it possible that things might get better before they get worse?

Yes. Once an oil find is made, it takes about 5 years for production to come online. As stated in the previous question, the last remotely decent year for oil finds was 2000. This means the last decent year for new production to come online will be about 2005. By 2008-2010, those projects will be in decline.

21. Can't technology just find better, more efficient ways to use the oil that is left?

Absolutely, but that increased efficiency means nothing unless we use less oil overall. Thus far, the more efficient we get, the more oil we use. That trend must be reversed if we are to effectively cope with this crisis. In a free-market economy, however, that is unlikely.

22. I heard that some scientist has a theory that fossil fuels actually renew themselves. If that's true, wouldn't it cast doubt on the validity of Peak Oil?

The scientist you speak of is a man by the name of Dr. Thomas Gold. In his 1999 book, *The Deep Hot Biosphere*, he proposes a theory that oil comes from deep in the Earth's crust, left over from some primordial event in the formation of the Earth, when hydrocarbons were formed.⁶¹ If his theory were true, it would mean that fossil fuels are actually renewable resources.

Unfortunately, his theory has been proven to be false, time and time again. As Steve Drury, who reviewed Gold's book for *Geological Magazine*, puts it, "Any Earth scientist will take a perverse delight in reading the book, because it is entertaining stuff, but even a beginner will see the gaping holes where Gold has deftly avoided the vast bulk of mundane evidence regarding our planet's hydrocarbons."⁶² When asked about the validity of theories such as Gold's, Dr. Colin Campbell responded:

Oil sometimes does occur in fractured or weathered crystalline rocks, which may have led people to accept this theory, but in all cases there is an easy explanation of lateral migration from normal sources. Isotopic evidence provides a clear link to the organic origins. No one in the industry gives the slightest credence to these theories: after drilling for 150 years they know a bit about it. Another misleading idea is about oilfields being refilled. Some are, but the oil simply is leaking in from a deeper accumulation.⁶³

Finally, the deep-earth hypothesis has a fatal flaw: If oil were, indeed, formed under intense heat and pressure in the center of the Earth, it would tend to disintegrate as it rose from the regions of high temperature and pressure to the benign, cooler, low-pressure world closer to the Earth's surface.⁶⁴

23. If this were all true, wouldn't you see gas stations closing left and right?

The September 2003 issue of *World Oil* reports that Chevron-Texaco plans to dispose of 550 filling stations in the United States; 900 in Asia and Africa; retail and refining operations in Europe, South America, Australia and the Middle East; and exploration and production holdings in North America, the North Sea and Papua. These are the actions of a company planning a profitable decline strategy, which indeed would be realistic given the pending peak and decline of world production. The action delivers a broader message.⁶⁵

24. Didn't the Club of Rome make this exact same prediction back in the 70s?

In 1972, the Club of Rome (COR) shocked the world with a study titled *The Limits to Growth*, which concluded that:

1. If the population continued to grow and industrialize as it had been, society would run out of renewable resources by the year 2072. A mass die-off would ensue.
2. Even if the supply of resources was magically doubled, a collapse would occur as a result of pollution.⁶⁶

Often, whenever somebody makes an "end of the world"-type prediction, they are derided as a "Club of Romer." This is extremely unfortunate, as it appears the COR turned out to be correct. Says who? None other than Matthew Simmons, who stated in 2000, "In hindsight, The COR turned out to be right. We simply wasted 30 important years by ignoring this work."⁶⁷

On a similar note, Richard C. Duncan of the Institute on Energy recently noted: "Forecasts of the imminent depletion of oil are as old as the industry itself, and that has not changed. What has changed is the growing amount of historical oil data now available to test forecasts. Of the 44 significant oil-producing nations, at least 24 are clearly past their peak of production." Thus the discussion about global oil production is now less about predicting the future as it is about recording history as it happens.⁶⁸

25. We had oil problems back in the 1970s. How is this any different?

The oil shortages of the 1970s were the results of political events. The coming oil shortage is the result of geologic reality. You can negotiate with politicians. You can threaten, blockade, or invade Middle East regimes. You can't do any of that to the Earth.

As far as the US oil supply was concerned, in the 70s there were other 'swing' oil producers like Venezuela who could step in to fill the supply gap. Once **worldwide** oil production peaks, there won't be any swing producers to fill in the gap. In a recent issue of the Association for the Study of Peak Oil Newsletter, Dr. Colin Campbell explained how the coming global oil shortage will be different from previous oil shortages:

To date, when an individual country, province or region reached this point (production decline), it simply bought from elsewhere. But what will happen when decline is a global phenomenon?

Initially it will be denied. There will be much lying and obfuscation. Then, prices will rise and demand will fall. The rich will outbid the poor for available supplies. The system will initially appear to rebalance.

The dash for gas will become more frenzied. People will realise nuclear power stations take up to ten years to build. People will also realise wind, waves, solar and other renewables are all pretty marginal and take a lot of energy to construct. There will be a dash for more fuel-efficient vehicles and equipment. The poor will not be able to afford the investment or the fuel.

Exploration and exploitation of oil and gas will become completely frenzied. More and more countries will decide to reserve oil and gas supplies for their own people. Air

quality will be ignored as coal production and consumption expand once more. Once the decline really gets under way, liquids production will fall relentlessly by 5% per year. Energy prices will rise remorselessly. Inflation will become endemic. Resource conflicts will break out.⁶⁹

26. The "end of the world" is here, once again. So what's new? Y2K was supposed to be the end of the world, and it turned out to be much ado about nothing.

What's new is that this is the real thing. . It isn't a fire drill. It isn't paranoid hysteria. It is the real deal. George W. Bush's Energy Advisor, Matthew Simmons, addressed this issue at the [Paris Peak Oil Conference](#), stating:

I think it is human nature, basically, to say that we really like to have pleasant thoughts. The one crying wolf is abandoned unless the wolf turns out to be already at the front door, and by then, the cry is generally too late. And crises are basically problems, by definition, that have gone ignored. And all great crises were ignored until it became too late to do anything about it.⁷⁰

Peak Oil isn't "Y2K Reloaded." Peak Oil differs from previous "end of the world" scenarios such as Y2K in the following ways:

1. Peak Oil is not an "if" but a "when." Furthermore, it is not a "when during the next 1,000 years," but a "when during the next 10 years."
2. Peak Oil is based on scientific fact, not subjective speculation.
3. Government and industry began preparing for Y2K a full 5-10 years before the problem was to occur. We are within 10 years of Peak Oil, and we have made no preparations for it.
4. The preparations necessary to deal with Peak Oil will require a complete overhaul of every aspect of our civilization. This is much more complex than fixing a computer bug.
5. Furthermore, oil is more fundamental to our existence than anything else, even computers. Had the Y2K predictions come true, our civilization would have been knocked back to 1965. With time, we would have recovered. When the oil crash comes, our civilization is going to get knocked back to 1765. We will not recover, as there is no economically available oil left to discover that could help us recover.

27. How does all this tie in with Global Climate Change?

Fossil fuel consumption and global climate change are intricately tied to each other. According to data analyzed by the Global Commons Institute there has been a near 100% correlation between world Gross Domestic Product growth and the emission of greenhouse gases from the consumption of hydrocarbon energy.

It now appears that we will have to deal with the implications of Peak Oil at the same time we finally have to pay the piper in regards to global climate change. According to a report recently released by the **Pentagon**, abrupt climate change could bring the planet to the edge of anarchy as countries develop a nuclear threat to defend and secure dwindling food, water and energy supplies.

The report indicates that by 2020 "catastrophic" shortages of water and energy supply will become increasingly harder to overcome, plunging the planet into war. The report concludes that, "An imminent scenario of catastrophic climate change is plausible and would challenge US national security in ways that should be considered immediately."⁷¹ Catastrophic global climate change and severe oil shortages will pack a one-two punch that could knock the human race out forever if we don't start taking our situation very seriously.

28. There is no way humanity will go extinct as a result of Peak Oil.

What scientific evidence do you have to support that claim? Other than your optimism, faith in technology or faith in the market, you have nothing. On the other hand, biological science tells us that we may very well go extinct as a result of Peak Oil. According to biologist David Price,

A population that grows in response to abundant but finite resources, tends to exhaust these resources completely. By the time individuals discover that remaining resources will not be adequate for the next generation, the next generation has already been born. And in its struggle to survive, the last generation uses up every scrap, so that nothing remains that would sustain even a small population.⁷²

29. My friend, who is really knowledgeable about these things, keeps insisting we have 35 years of oil left.

Your friend is correct. The issue, however, is not "how much oil do we have left" but more specifically, "how much cheap oil do we have left." I realize I explained this in question #1, but given the frequency at which people misunderstand this, I'm going to touch on it again before we move on to the next section:

The Earth was endowed with 2,000 billion barrels of oil. We have used about 1,000 billion barrels. As of 2003, we consume about 28 billion barrels per year. 1000 billion barrels divided by 28 billion barrels per year = 35.7 years of oil left. Your friend's analysis, while seemingly straightforward, fails to account for two factors: 1) demand increases every year as the population grows and becomes increasingly industrialized; and 2) cost goes up once we go past the peak.

Part III: Alternatives to Oil: Fuels of the Future or Cruel Hoaxes?

"A man is his own easiest dupe, for what he wishes to be true he generally believes to be true."

-[Demosthenes](#) c.383-322 BC

"A pleasant illusion is better than a harsh reality."

-[Christian Nevell Bovee](#)

30. What about alternatives to oil? Can't we just switch to a different source of energy?

Unfortunately, the ability of alternative energy to replace oil is based more in mythology and utopian fantasy than in reality and hard science. Oil accounts for 40% of our current US energy supply.⁷³ None of the alternatives to oil can supply anywhere near this much energy, let alone the amount we will need in the future as our population continues to grow and industrialize. When examining alternatives to oil, it is of critical importance that you ask certain questions:

1. Is the alternative easily transportable like oil?
2. Is the alternative energy dense like oil?
3. Is the alternative capable of being adapted for transportation, heating, and the production of fertilizers, plastics, and pesticides?
4. Does the alternative have an Energy Profit Ratio (EPR) comparable to oil? Oil used to have an EPR of 100 to 1. It only took one barrel of oil to extract 100 barrels of oil. This was such a fantastic ratio that oil was practically free energy. In fact, at one point in Texas, water cost more than oil!

Oil's EPR is now down to 10 to 1, which is still pretty good. If a proposed alternative energy source doesn't have an EPR comparable to oil, the amount of good it does us is very limited. Keep these questions in mind as we examine the shortcomings of the oil alternatives in the following questions.

31. Can't we use coal to replace oil? I know it's dirty and could hurt the environment, but who cares about pollution if the alternative is starving?

Like oil, coal is a fossil fuel. It accounts for 25% of current US energy supply.⁷⁴ Although we have at least 200 years of coal left in the ground, it is unsuitable as a replacement for oil for the following reasons:

1. It is 50% to 200% heavier than oil per energy unit. This makes it much more difficult to transport than oil.
2. Coal mining operations run on oil fuels as do coal-mining machinery and transportation. As oil becomes more expensive, so will coal.

3. Pollution is also a major problem. A single coal-fired station can produce a million tons of solid waste each year. Burning coal in homes pollutes air with acrid smog containing acid gases and particles.
4. Currently, coal has an EPR of 8 to 1. That ratio used to be 100 to 1. By 2030-2040, that ratio will be 1 to 2. It will take two units of coal to extract one unit of coal. When any resource requires more energy to extract it than it contains, it ceases to be a resource.⁷⁵ Thus, while the Earth may be endowed with a generous supply of coal, by 2030 it will be of little use to us.

32. What about substituting natural gas for oil?

Like oil and coal, natural gas is a fossil fuel. It accounts for 25% of current US energy supply.⁷⁶ As a replacement for oil, it is unsuitable for the following reasons:

1. US natural gas production peaked around 1970. By the year 2000, US domestic production was at 1/3 of its peak level. While natural gas can be imported in its liquefied form, the process of liquefying and transporting it is extraordinarily expensive and very dangerous. Demand for natural gas in North America is already outstripping supply, especially as power utilities take the remaining gas to generate electricity.
2. Gas is not suited for existing jet aircraft, ships, vehicles, and equipment for agriculture and other products.
3. Conversion consumes large amounts of energy as well as money.
4. Natural gas also does not provide the huge array of chemical by-products that we depend on oil for.

33. What about using methane hydrates from the ocean floor as fuel?

Methane hydrates are deposits of ice-like crystals that trap natural gas under conditions of high pressure and low temperature such as those found in sea-floor sediments or in permafrost. They contain huge quantities of natural gases and are often tipped as a future energy source. Unfortunately, hopes of exploiting the ice-like methane hydrates from the ocean appear doomed for several reasons:

1. It is difficult to accumulate in commercial quantities.

2. Estimates of methane hydrates fell steadily in the last 30 years due to growing knowledge of the fashion in which they are destroyed in ocean sediments
3. Recovery is extremely dangerous and about six times more expensive than the exploitation of oil and other gas sources."⁷⁷

34. What about Geothermal Energy? Could we get our energy from things like volcanoes?

Less than 1% of the world's electricity production comes from geothermal sources.⁷⁸ As a replacement for oil, it is unsuitable due to the following reasons:

1. Geothermal power is dependant upon geography. Plants must be near hot springs, volcanoes, or geysers.
2. Can't be adapted for cars, boats, airplanes, tanks, and other forms of transportation.
3. Can't be used to produce fertilizer or plastics.

35. What about Hydrogen? Even Arnold, who owns 10 Hummers, says he's a proponent of hydrogen fuel cells. Everybody talks about it so much; it must be good, right?

Hydrogen accounts for 0.01% of the US energy supply. As a replacement for oil, it is unsuitable for the following reasons:

1. Hydrogen must be made from coal, oil, natural gas, wood, biomass or even water, but in every instance, it takes more energy to create hydrogen than the hydrogen actually provides. It is therefore an energy "carrier," not an energy source.⁷⁹
2. Liquid hydrogen occupies four to eleven times the bulk of equivalent gasoline or diesel.
3. Existing vehicles and aircraft and existing distribution systems are not suited to it.
4. Hydrogen cannot be used to manufacture plastics or fertilizer.
5. The cost of fuel cells is absolutely astronomical and has shown no downtrend.

Hydrogen is such a poor replacement for oil that "Hydrogen Fuel Cells" should be called "Hydrogen Fool Cells." Dr. Jorg Wing, a representative of the auto giant Daimler/Chrysler made

this clear at the Paris Peak Oil Conference when he explained that his company did not view hydrogen as a viable alternative to petroleum-based engines. He stated that fuel-cell vehicles would never amount to a significant market share. Hydrogen was ruled out as a solution because of intensive costs of production, inherent energy inefficiencies, lack of infrastructure, and practical difficulties such as the extreme cost and difficulty of storage.⁸⁰

You may be wondering, "But didn't Bush say in the 2003 State of the Union speech that he was giving billions to develop the hydrogen economy?" Yes, he did say that, but he didn't mention that the money was going to fund using nuclear power to get the hydrogen. The limitations of nuclear power are discussed next.

36. What about Nuclear Power? If we're desperate, we won't have any choice but to use it.

Nuclear power accounts for 8% of US energy production.⁸¹ As a replacement for oil, it is unsuitable for the following reasons:

1. Nuclear power is extremely expensive. A single reactor costs between 3 and 5 billion dollars, not counting the costs associated with decommissioning, increased costs for scarcer nuclear fuels; increased costs to safeguard nuclear facilities and materials from sabotage, terrorism, and diversion; increased likelihood of major, multi-billion-dollar accidents and their disrupting economic effects.
2. Number of reactors needed in the US: 800-1000. Current number: only 100.
3. Retrofitting current vehicles to run on nuclear-generated electricity would further increase the expenses related to a nuclear solution.
4. Nuclear power cannot be used to produce plastics, pesticides, or fertilizer.
5. Uranium requires energy from oil in order to be mined. As oil gets more expensive, so will nuclear power.
6. All abandoned reactors are radioactive for millennia.
7. A nuclear power plant requires tremendous amounts of oil to construct. When you take into account the amount of energy used to construct a nuclear plant, no plant has ever produced much more energy than it took to construct it. Nuclear power has only existed because the oil used to construct nuclear power plants has been so cheap.

8. Even if we were to overlook these problems, nuclear power is only a short-term solution. Uranium, too, has a Hubbert's peak, and the current known reserves can supply the Earth's energy needs for only 25 years at best.⁸²

37. What about solar power?

Solar power currently supplies .007% of the US energy supply.⁸³ As a replacement for oil, it is unsuitable due to the following reasons:

1. Energy from solar power varies constantly with weather or day/night.
2. Not practical for transportation needs. While a handful of small, experimental, solar-powered vehicles have been built, solar power is unsuited for planes, boats, cars, tanks, etc.
3. Solar cannot be adapted to produce pesticides, fertilizer, or plastics.
4. Solar is susceptible to the effects of global climate change, which is projected to greatly intensify in the decades to come.
5. Estimates are that about 20 percent of US land area would be required to support a solar energy system that would supply less than one-half of our **current** energy consumption. To develop such a system would require phenomenal level of investment and new infrastructure. This land requirement can be expected to diminish arable, pasture, and forest lands to some extent, with the most critical loss being arable land.⁸⁴ As explained previously, by 2050, the US will only have enough arable land to feed half its population.

Despite these limitations, a typical solar water panel array can deliver 50% to 85% of a home's hot water, though. Recent advancements in solar panel technology suggest that solar's EPR could reach 10, if proper investments are made. Using some of our precious remaining crude oil as fuel for manufacturing solar equipment would be extremely wise.

38. What about Water/Hydro-Electric power?

Water, i.e. hydro-electric power through building dams, currently supplies 2.3% of global energy supply. It is a time-tested, reliable and clean form of electricity creation. As a replacement for oil, however, it is unsuitable due to the following reasons:

1. It is unsuitable for aircrafts and the present 800 million existing vehicles.

2. It cannot be adapted to produce pesticides, fertilizer, or plastics.
3. Most of the obvious dam sites in many parts of the world have already been erected. In other words, we can't really exploit it much more than we already are.

39. What about wind power?

Wind power accounts for .007% of US energy supply.⁸⁵ As a replacement for oil, it is unsuitable due to the following reasons:

1. As with solar, energy from wind varies greatly with weather, and is not portable or storable like oil and gas.
2. Wind cannot be adapted to produce pesticides, fertilizer or plastics.
3. Like solar, wind is susceptible to the effects of global climate change.
4. Not appropriate for transportation needs.

Despite these limitations, wind power is the most promising of the various oil alternatives. According to a 1993 study done by the National Renewable Energy Laboratory, wind could generate about 15% of US energy, if proper investments are made.⁸⁶ According to a recent Danish study, wind's EPR could be as high as 50 — by far the highest of any of the available alternatives.⁸⁷ The fact that wind is our most promising alternative indicates that replacing oil is essentially impossible. For instance, in order for wind to be used as hydrogen fuel, the following steps have to be taken:

1. Build the wind farm. This step requires an enormous investment of oil and raw materials, which will become increasingly expensive as oil production drops.
2. Wait for X number of years while the original energy investment is paid back.
3. Construct an infrastructure through which the wind energy can be converted to hydrogen. This requires an enormous investment of oil and raw materials, which will become increasingly expensive as oil production drops.
4. Retrofit our current infrastructure to run on this fuel. This requires an enormous investment of oil and raw materials, both of which will become increasingly expensive as oil production drops.

5. Deal with enormous political and industrial resistance at each step.
6. Pray that we can repeat this process enough times before anarchy and war completely cripple our ability to do so.

40. You're forgetting about plant-based fuels. Can't we just grow our fuel?

To a certain degree we can, but biomass, ethanol, and biodiesel will never be able to replace fossil fuels for the following reasons:

1. Depending on who you consult, ethanol has an EPR ranging from .7 (making it an energy loser) to 1.7. Methanol, made from wood, clocks in at 2.6, better than ethanol, but still far short of oil.
2. As explained previously, by 2050, the US will only have enough arable land to feed half of its population, not accounting for the effects of oil depletion. In the years to come, there won't be enough land for food, let alone fuel.
3. While a handful of folks have adapted their vehicles to run on biodiesel, this is not a realistic option on a large scale. There is simply not enough biodiesel available in the world to replace even a fraction of the energy we get from oil.
4. Current infrastructure, particularly manufacturing and large-scale transportation is adaptable to plant-based fuels in theory only. In reality, retrofitting our industrial and transportation systems to run on plant fuels would be enormously expensive and comically impractical.

Finally, when evaluating claims about plant-based fuels, be aware of who is providing the data. As Dr. Walter Younquist points out:

Ethanol production survives only by the grace of a subsidy by the US government from taxpayer dollars. Continuing the production of ethanol is purely a device for buying the Midwest US farm vote.

[Not surprisingly] the fact that the company which makes 60% of US ethanol is also one of the largest contributors of campaign money to the Congress – a distressing example of politics overriding logic.⁸⁸

41. What about that new technology that can turn anything into oil?

["Thermal Depolymerization"](#) (TD) which can transform many kinds of waste into oil, could help us raise our energy efficiency as we lose power due to oil depletion.⁸⁹ While it could help us ameliorate the crash, it is not a true solution for the following reasons:

1. Like all other forms of alternative energy, we have run out of time to implement it before the crash. Currently, only one TD plant is operational. Thousands of such plants would need to come online before this technology would make even a small difference in our situation.
2. TD is really nothing more than high-tech recycling. Most of the waste input (such as plastics and tires) requires high-grade oil to make it in the first place.⁹⁰
3. It is unclear what the EPR of oil derived from TD is. How much energy does the TD process require to produce a barrel of oil? If the EPR of oil derived from TD does not approach the EPR of traditional oil, it will not alleviate our problems.

The biggest problem with TD is that it is being advertised as a means to maintain business as usual. Such advertising promotes further consumption, provides us with a dangerously false sense of security, and encourages us to continue thinking that we don't need to make this issue a priority.

You may find it interesting that if a 175-pound man falls into one end of the TD machine, he comes out the other end as 7 pounds of gas, 7 pounds of minerals, 123 pounds of sterilized water, and 38 pounds of oil.⁹¹ As water, gas, and oil become increasingly scarce, feeding corpses into a TD machine could conceivably become necessary.

42. What about free energy? Didn't Nikola Tesla invent some machine that produced free energy? Couldn't we just switch to something like that?

While free energy technologies such as Cold Fusion, Vacuum Energy and Zero Point Energy are extremely fascinating, the unfortunate reality is that they are unlikely to help us cope with the oil depletion for several reasons:

1. We currently get absolutely zero percent of our energy from these sources.
2. We currently have no functional prototypes. Were a functional prototype of a free energy device unleashed on the public tomorrow, our oil-and-gas-fueled economy would

be plunged into chaos. It is unlikely that such a scenario would be allowed to play itself out.

3. We've already had our experiment with "free energy." With an EPR of 100 to 1, oil was so efficient and cheap an energy source that it practically was free.
4. The development of a "free energy" device would just put off the inevitable. The Earth has a carrying capacity. If we are able to substitute a significant portion of our fossil fuel usage with "free energy", the crash would just come at a later time, when we have depleted a different resource. At that point, our population will be even higher. The higher a population is, the further it has to fall when it depletes a key resource. The further it has to fall, the more momentum it picks up on the way down through war and disease. By encouraging continued population growth, so-called "free energy" could actually make our situation worse.
5. Even if a functional free energy prototype came into existence today, it would take at least 25-50 years to retrofit our multi-trillion-dollar infrastructure for such technology.

43. Are these alternatives useless then?

No, not at all. Whatever civilization emerges after the crash will likely derive a good deal of their energy from these technologies. All of these alternatives deserve massive investment right now. The problem is that none of them can replace oil, no matter how much we wish they could. All the optimism, ingenuity and desire in the world doesn't change the physics and hard math of energy. Even in the best-case scenario, we will have to accept a drastically reduced standard of living. None of the alternatives can supply us with enough energy to maintain even a modest fraction of our current consumption levels. To survive, we will have to radically change the way we get our food, the way we get to work, what we do for work, the homes we live in, how we plan our families and what we do for recreation. Put simply, a transition to these alternatives will require a complete overhaul of every aspect of modern industrial society. Unfortunately, industrial societies such as ours do not undertake radical changes voluntarily.

44. If renewable energy is such a poor substitute for oil, why do I hear so much about it? The government and news media wouldn't be lying to me, would they?

I believe that the renewable energy charade is being kept up for two reasons:

1. Pacify the public, so they don't become alarmed at the **obvious** signs that fossil fuels are dwindling.
2. Keep the transportation industries insulated from the stock collapse that would ensue if the public knew the truth about things such as the "Hydrogen Economy."

Part IV Issues of Economy, Technology, and the Ability to Adapt

"Facts do not cease to be facts simply because they are ignored."

-Aldous Huxley

"Anybody who believes exponential growth can go on forever in a finite world is either a madman or an economist."

-Kenneth Boulding

"If you think a magic bullet solution is going to solve your problems, you may as well shoot yourself."

-Unknown

"Hummers are not the problem and Hybrids are not the solution"

-Matt Savinar

45. I don't think there is really anything to worry about. According to classical economics, when one resource becomes scarce, people get motivated to invest in a replacement resource. When the price of oil gets too high, renewable energy will become profitable and companies will begin investing in it.

Classical economic theory works great for goods within an economy. Relying on it to address a severe and prolonged energy shortage, however, is going to prove disastrous. There are several reasons why:

A. Classic Economics is Fundamentally Flawed

Classical economic theory has a fundamental flaw that prevents it from being able to appropriately react to severe natural resource shortages. The classically trained economist sees the environment as a subsystem of the economy, rather than the other way around.⁹² In other words, economists are trained to believe that natural resources come from markets rather than the environment. A notable example is Morris Adelman, whose ideas have had tremendous influence in the oil and gas industries.⁹³ On page 483 of his book, *The Economics of Petroleum Supply*, Adelman writes, "There are plenty of fossil fuels and no limit to potential electrical capacity. It is all a matter of money."

This absolute confidence in money ignores the fact oil is a physical resource; that oil can be, and is being exhausted. To illustrate: imagine that Mr. Adelman and a bearded, homeless guy are placed in a sealed "rat hole" out in the middle of the desert. Mr. Adelman, being a successful economist, brings with him a copy of *The Wealth of Nations* by Adam Smith, and his checkbook. The homeless guy, having once been very wealthy, brings \$750,000 in cash, in addition to pictures of his long-lost sons. He's a bit nervous about being picked up by the local authorities, so he also brings his handgun. The only thing the two men have to eat is a loaf of bread. Mr. Adelman is not worried, however, because he is confident that once the supply of bread is exhausted, the two men will be motivated to find a replacement resource. Of course, once the bread is consumed, Mr. Adelman quickly realizes it is easy to lose sight of physical realities when dealing mainly with theoretical ideas.⁹⁴

B. No True Substitute for Oil Exists

As explained in Part III, none of the current alternatives even come close to being able to replace oil. It's always possible that a substitute for oil will be found, but implementation of that (yet unknown) substitute energy will present Herculean challenges and may institute a collapse in and of itself.

C. Market Indicators Will Come Too Late

Classical economics works well so long as the market indicators arrive early enough for people to adapt. In regards to oil, market indicators will likely come too late for us to implement even the modest solutions we have available. Once the price of oil gets high enough that people begin to seriously consider alternatives, those alternatives will become too expensive to implement on a wide scale. Reason: oil is required to develop, manufacture, transport and implement oil alternatives such as solar panels, biomass, and windmills.

There are many examples in history where a resource shortage prompted the development of alternative resources. Oil, however, is not just any resource. In our current world, it is the precondition for all other resources, including alternative ones. To illustrate: as of the winter of 2004, a barrel of oil costs \$38. It would cost in the range of \$100-\$250 to get the amount of energy in that barrel of oil from renewable sources.⁹⁵ This means that an energy company won't be motivated to aggressively pursue renewable energy until the cost of oil doubles, triples, or quadruples. At that point, our economy will be close to devastated. Our ability to implement whatever alternatives we can think of will be permanently eliminated. In effect, we will be a lifeless barge of a nation floating on some very rough seas.

In pragmatic terms, this means that if you want your home powered by solar panels or windmills, you had better do it soon. If you don't have these alternatives in place when the lights go out, they're going to stay out.

D. A Graphic Illustration of Why the Market Will Not Save Us

The following story is an adaptation of *The Economists* originally written by Jay Hanson.⁹⁶ It graphically illustrates why market economics will not help us address the oil crisis.

Imagine that you and your family live in a remote mountain cabin. To heat the cabin, you rely on a small coal-burning stove. When you first moved into the cabin, it came with a huge stockpile of coal. With so much coal sitting around, you kept the stove going all the time, without too much concern about what would happen when you ran out of coal. One day, your children come to you and say, "What is going to happen when the coal runs out? There is only so much. How will we heat our home?" You reply, "Don't worry, once the coal runs out, we will find a suitable substitute. You see, kids, whenever one resource becomes scarce, what happens is that people get motivated to find replacement resources. So when the coal runs out, we will be really motivated to find something else. That's the way supply and demand work."

A few weeks later, the coal runs out. You look around and notice that your cabin is full of furniture. So you break it apart and burn it in the stove. A few weeks later, the furniture is all

gone. So you begin ripping down parts of the cabin and burning them in the stove to keep warm. A few weeks go by, and the cabin is now virtually gone. So you start putting your family's clothing in the stove to keep it running. A few hours later, the clothes have been burned up. You and your family are shivering in the cold. If you don't get that stove working soon, you will all perish.

What, or should I say **who**, are you going to put in the stove now? It's a tough decision, and not one your economics textbook is likely to help you make.

D. Conclusion

The "invisible hand of the market" is about to bitch-slap us back to the stone age.

46. What about the whale oil crisis of the 19th century? The market solved that crisis, what makes you think it won't solve this one?

During the early 1800's, people used whale oil to light their lamps. As the whale population shrank, a crisis emerged in the early 1830's. Between 1831 and 1854, the price of whale oil rose 540%. As the price of oil rose, people began to conserve. The high price created incentives for investors to come up with alternative sources of lamp fuel. As a result, kerosene was invented, and the whale oil crisis was ended.

People who insist on comparing the oil crisis of the 21st century with the whale oil crisis of the 19th century are ignoring the following facts:

1. In the 19th century, people didn't use whale oil for much of anything other than lighting their lamps. They didn't use it for transportation, to power their food supply, to pump fresh water, to produce consumer products or to power the military. Whale oil was nowhere near as important to the civilization of the 19th century as oil is to the civilization of the 21st. If the price of oil rose 540%, do you think there is any way we could avert a crisis of unimaginable proportions?
2. Whale oil was not a prerequisite for an alternative source of power. People did not need massive quantities of whale oil to create kerosene. The increase in the cost of whale oil did not cripple the ability to produce alternatives. Today, we do need massive amounts of oil to come up with alternatives to oil. As oil prices rise, our ability to implement alternatives will be crippled.

For these reasons, using the whale oil crisis of the 19th century as proof the market will solve the oil crisis of the 21st century is silly at best and disinformation at worst.

47. The oil companies are so greedy, they will come up with a solution to keep making money, right?

Expecting the oil companies to save you from the oil crash is about as wise as expecting the tobacco companies to save you from lung cancer. Corporate officers are **bound by law** to do what is in the best interests of the corporation, so long as their actions are legal. Their legal obligation is to make money for the company, not to save the world, not to serve their country, not to clean up the environment, not to bring glory to God, not to anybody but the corporation. For all intents and purposes, this means it is illegal for an oil executive to aggressively pursue renewable energy. Occasionally, a company will stroll out a "renewable energy" initiative, but this is almost always more for publicity and public relations purposes than it is for profit.

The truth is that you probably don't want the oil companies to aggressively pursue renewable energy. The profit margin of renewable energy is so poor that if oil companies attempted to pursue it, they would quickly go bankrupt. This would cause a collapse of the stock market, which would result in an economic meltdown.

Furthermore, the oil companies are likely to profit from the initial stages of the crash. How? Simple — say, for example, that in February 2004, it takes \$10 to extract and refine a barrel of oil. If a company sells that same barrel in March 2004, they will likely fetch about \$38 for it. However, if they wait until the oil crash hits hard, they may be able to sell that same barrel for considerably more.

Expecting the oil companies, the government, or anybody else to solve this problem for us is simply suicidal. You, me, and every other "regular person" needs to be actively engaged in addressing this issue if there is to be any hope for humanity.

48. Is it possible the oil companies are sitting on some technology that they're going to bring to the market? Or maybe the government is hiding some technology that can replace oil?

Almost certainly not, on both accounts. Any company in possession of such technology would see their stock soar on Wall Street as soon as they announced it. There would be no reason for them to keep it under wraps. If the companies were in possession of such technologies, they wouldn't be downsizing and merging at the rate they are.

Similarly, any president who announces that we are in possession of a technology that could eliminate our reliance on foreign oil would have a holiday named after him. Additionally, the technology would likely have military applications, which the president could use to

intimidate the rest of the world. Again, there would be no reason to keep such a development under wraps.

49. I bet the oil companies have been buying up all the patents for devices that could save us.

That is possible, but the oil companies aren't forcing anybody to drive around town by themselves in SUVs, are they? Nor are they forcing us to eat fast food, buy tons of useless crap, or engage in any other wasteful consumption. We do all that on our own. We got ourselves into this situation. Blaming the oil companies is going to get us nowhere.

50. I think you are underestimating the human spirit. Humanity always adapts to challenges. We will just adapt to this, too.

Absolutely, we will adapt. Part of that adaptation process will include most of us dying if we don't take massive action right now. Adaptation for millions does not equal survival for billions. The human spirit is capable of some miraculous things. We need a miracle right now, so the human spirit had better get its ass in gear, pronto! Unfortunately, there is no law that says when humanity adapts to a resource shortage, everybody gets to survive. Think of any mass tragedy connected to resources such as oil, land, food, labor (slaves), buffalo, etc. The societies affected usually survive, but in a drastically different and often unrecognizable form.

Just look at Easter Island. The islanders had one of the most socially complex and technologically advanced civilizations for their time and resource base. They were certainly endowed with as much intelligence and ingenuity as any other group of people. Yet they were unable to adapt to a critical resource shortage until their population was reduced by 98%.

51. What if somebody invents some new, miraculous technology or makes some discovery that can replace oil? In fact, I just heard of an inventor who has a device/new resource he claims will replace oil. It sounded pretty promising.

Before you stake your survival on a life raft that you've never even seen, you should ask yourself some questions:

- Is this new technology or discovery easily transportable like oil?
- Is it energy-dense like oil?

- Is it suitable for a variety of uses, including transportation, heating, and the production of fertilizers, plastics and pesticides?
- Can you mass-produce this invention without cheap oil?
- Can you distribute this resource without cheap oil?
- Does it have an EPR comparable to that of oil?
- Is there any infrastructure currently in place to handle this currently nonexistent invention or discovery?
- If this resource or discovery is implemented, how will it affect our transportation, agricultural and industrial systems? Can these systems be retrofitted to handle this new resource or discovery?
- What is the profit margin? Is there a profit margin?
- How long before it can be brought online on a society-wide level?
- Could it be implemented before billions of people die? Or would it be implemented only after that ghastly horror has motivated us to implement it?
- How much oil would it take to develop it? To manufacture it? To transport it? To install it?
- How would vested interests react?
- How much of a shock to the stock market would this invention or discovery create? How many factory farms, auto manufacturers and energy companies would it put out of business?
- Have you considered the fact that the multi-trillion-dollar energy industry has been investing ungodly sums to this end with no success?
- Have you considered that without cheap oil, none of our current technology could have been produced on more than a prototype-experimental scale?
- How does this new technology or resource affect the environment?

You need to ask the tough questions before you stake your life on something that doesn't even exist yet. Keep in mind that we often don't find solutions to serious problems. Or we find them only after many people have died. For instance, despite all of our technology, money and ingenuity, we have no cure for AIDS, for cancer, or even the common cold. There is no guarantee that we will come up with a miraculous solution for oil depletion.

If you were diagnosed with a life-threatening disease, would you take it upon yourself to prepare, or would you dismiss the diagnosis with, "Oh, somebody will find a cure in the next couple of years before my condition gets really bad." You need to take the issue of oil depletion just as **personally and seriously** as you would a diagnosis of a terminal disease if you are to have any chance at survival. The longer we hold on to the empty hope that somebody will miraculously think of something, the more disastrous the drive off the end of the road will be. The truth is that science may not be able to think of something, especially given the extraordinary complexity of oil's relationship to the world economy.

52. We'll think of something. We always do. Necessity is the mother of invention.

Yes, and lots of cheap oil has been the father of invention for 150 years. No invention was mass-produced and no resource was distributed without an abundance of cheap oil. Dealing with an energy crisis of this scope is not as simple as just "thinking of something." We are talking about the collapse of a highly complex society. Complex societies make massive changes over the course of decades or centuries, not 5-15 years. When faced with sudden change, complex societies tend to collapse. The post-oil collapse of North Korea, for example, while not completely analogous to countries such as the US, shows us what happens when a complex, industrialized, nation runs into a massive oil shortage:

North Korea has never had any real oil resources of its own. During the Cold War, it imported its oil from the Soviet Union, China and Iran. When the Soviet Union collapsed in 1990, North Korea's oil supply plummeted. China, Iran and other countries were either unwilling or unable to make up the shortfall created by the Soviet collapse. The oil shortage quickly sent shockwaves through every sector of the North Korean economy, particularly agriculture. With a radically reduced oil supply, North Korea was unable to produce enough fertilizer to maintain its crop yields and unable to use its farm machinery. Food production quickly plummeted. The collapse of the agricultural sector was compounded by the collapse of the government and industrial sectors.⁹⁷

By 1997, the situation was stark. That year, US Congressman Tony Hall (D-Ohio) visited North Korea and was stunned at the condition of the country. According to Hall, "Everyone is systematically starving together." Hall added that he saw "evidence of a slow

starvation on a massive scale," including families eating grass, weeds and bark; orphans whose growth has been stunted by hunger and diarrhea; people going bald for lack of nutrients; and hospitals running short of food.⁹⁸

The people of North Korea did everything they could to adapt to the oil shortages — they walked more, ate less, but nothing made that much of a difference. They had plenty of necessity, in addition to as much native intelligence and work ethic as any other people, but they were unable to come up with any inventions that even moderately alleviated their situation. Necessity is the mother of invention, but she needs some food (oil) to give birth to anything.

The entire world now finds itself in a situation similar to the one North Korea found itself in 1990. With worldwide oil shortages on the horizon, there is no one we can appeal to for more oil. The post-oil collapse of North Korea should serve as a warning to anyone who dismisses the issue of oil depletion with a cavalier, "I'm not worried — we'll think of something."

53. People survived for thousands of years before oil. There is no reason we can't survive without oil.

Absolutely, as long as the population contracts to what it was before the oil age.

54. What if everybody went out and got a hybrid car? Would that help the situation?

Not necessarily. On average, it takes as much oil to construct a car as that car will consume during its lifetime. If everybody went out and replaced their SUVs with hybrids, the demand for oil would go up, and we would quickly exhaust what little cheap oil we have left.

If current gas guzzlers could be easily and inexpensively retrofitted for hybrid fuel systems, the situation might be ameliorated slightly. The problem is that even if we cut our oil consumption by 2/3, we would only be postponing the peak by 20-25 years. (See Question 18 for more information on the exponential fashion in which oil consumption increases.)

The "hybrid solution" appeals to people because it is superficial. It doesn't require any fundamental changes in lifestyle. A problem created in large part the automobile is not going to be fixed by making a few changes to the automobile. The harsh truth is that any viable solution to this problem is going to require a complete overhaul of everything we do.

55. How will the coming oil shortages affect our banking and monetary system?

This issue seems to be a "blind spot" for many people concerned about the ramifications of Peak Oil. Typically, when addressing Peak Oil, people focus on finding a magic bullet alternative to oil. Even if such a resource existed, it would not solve our problems unless it was implemented in conjunction with a complete overhaul of our monetary system. The reason is simple: the monetary system is really just a reflection of our energy system. This is easily illustrated by comparing Figure 3, which charts Per Capita GNP from what it was in 1925 to what it is projected to be in 2025, with Figure 4 which charts oil production from what it was in 1950 to what it is projected to be in 2050.

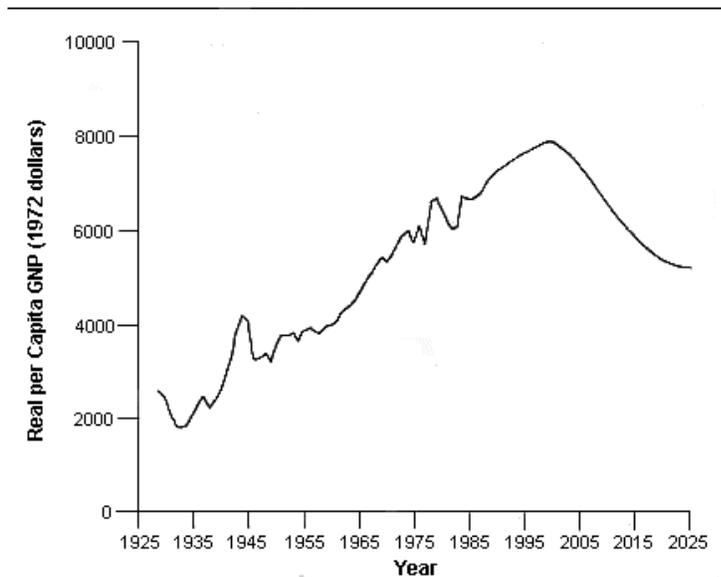


Figure 4. Per Capita GNP, 1925-2050
 (Source: John Gever, *Beyond Oil*, p. 121; Archived at http://www.greatchange.org/sc-growth_forever.html)



Figure 5. World Oil Production 1950-2050
(Source: Dr. C.J. Campbell, Petroconsultants, 1996;
Archived at <<http://www.oilcrisis.com/campbell/>>)

Even though the two charts don't cover the exact same years, you can see that they clearly resemble each other. This is because the supply of money and the supply of energy are intricately and completely intertwined with each other. You cannot separate one from the other.

Our monetary system is designed for one thing: growth. For any system to grow, it requires a constantly increasing supply of energy. We had a constantly increasing supply of energy as we moved up the upslope of the oil (energy) production curve. Now, however, we are stuck with a system that requires growth, but we are about to be denied the excess energy needed for that growth. Our monetary system was not designed for this contingency. If it can't grow, it collapses. There is no other alternative.

If the monumental scope of our problem wasn't clear to you already, hopefully it is now. Dealing with the oil crisis requires much more than just finding a replacement for oil. It requires replacing a growth-based monetary system with a steady-state system. This is an undertaking whose mythic proportions cannot be overstated.

56. If we stopped spending so much money bombing other countries and put that money towards peaceful pursuits like building schools and hospitals, wouldn't that help the situation?

Not really. Without fundamentally changing the way money works, it would only delay the inevitable. Don't get me wrong, the world would be a much better place with more food and fewer nuclear bombs, but replacing bombs with food is akin to rearranging deck chairs on the Titanic. We'd simply be replacing perpetual economic growth based on bombs with perpetual economic growth based on food. The problem is that no system can continue to grow indefinitely, regardless of how benevolent it is. For instance, in biology, when a healthy cell

continues to grow indefinitely it gets a new name: cancer. When that cancer gets to a certain size, you either cut it out or you die.

57. But my friend just told me about some car that was invented that runs on water or air. If we could get more technology like that, wouldn't it solve the problem?

Look, I don't care if your friend's car runs on back hair. In and of itself, no single invention is going to make much of a difference. Effectively coping with this oil crisis is going to take a lot more than technology. I don't mean to harp on this issue, but it is one that people seem to have a hard time understanding. Technology is great, but it is not a messiah. Expecting a technological miracle to save us is about as naïve as expecting space aliens to save us. No invention will change the fact that our monetary system requires constant growth. Any system that requires constant growth will eventually implode no matter how technologically advanced it is.

58. So how do our leaders plan on overhauling the international banking system?

They don't, as doing so would require massive decentralization of the financial system, which would result in much less control over the world's population. In their eyes, this is not an option. Now that oil production is set to permanently decline, the only way to maintain a highly centralized financial system is with a drastically reduced population.



Part V: Peak Oil and US Political/Social Issues

“The only difference between Bush and Gore is the velocity with which their knees hit the floor when corporations knock at the door.”

-Ralph Nader, 2000 election.

“George W. Bush is not the problem and John Kerry is not the solution.”

-Matt Savinar, 2004

59. Who do you think is more at fault for this situation? Bush or Clinton? Rush Limbaugh and his "ditto heads" or Michael Moore and his French-loving Hollywood buddies?

If you're looking for a scapegoat, I don't think you will find it by looking to the usual suspects.

A. Communism v. Capitalism

While communism and capitalism are often thought of as opposite ends of the political spectrum, they both share one central tenet: They are based on continual economic growth. Continual economic growth is no longer a possibility. Thus any coping mechanism based in traditional notions of communism or capitalism is likely to fail.

B. Conservative v. Liberals

If more conservative coping mechanisms are instituted, the result will be an exacerbation of what we've seen the past few years: more war, and fewer rights. If more liberal coping mechanisms are instituted, the result will likely be similar to that seen during peasant revolts — more war, and fewer rights.

Peak Oil is not a political issue. Well-respected members of both parties agree that this is a life-and-death game. As mentioned previously, George W. Bush's Energy Advisor Matthew Simmons has said the only solution to Peak Oil is to pray. Jimmy Carter has said essentially the same thing, "We must face the prospect of changing our basic ways of living. This change will either be made by our own initiative in a planned way, or forced on us with chaos and suffering by inexorable laws of nature."⁹⁹ Similarly, Michael Moore dedicated an entire chapter, "Oils Well That Ends Well," in his recent book, *Dude, Where's My Country*, to the end of the oil age and subsequent die-off.¹⁰⁰

Anytime a member of the Bush administration, Jimmy Carter, and Michael Moore are all in agreement on an issue, it's safe to say the sh*t has officially hit the fan. The fact is that when the bus runs out of gas, it doesn't matter which aisle you're sitting in, as we will all be stranded.

C. Bush v. Clinton

While many people often complain that Bush is controlled by oil interests, they forget that Clinton was controlled by these same interests, albeit in a less obvious fashion. For instance, a former CIA officer once complained that:

The sole job of Sheila Heslin (National Security Council energy expert during the Clinton years) was to carry water for an exclusive club known as the Foreign Oil Companies Group, a cover for a cartel of major petroleum companies doing business in the Caspian Sea. Her boss, Deputy National Security Advisor Sandy Berger headed the interagency committee on Caspian oil policy, which made him, in effect, the government's ambassador to the cartel and Berger wasn't a disinterested player. He held \$90,000 worth of stock in Amoco, probably the most influential member of the cartel. The deeper I got, the more Caspian oil money I found sloshing around Washington.¹⁰¹

On a similar note, while Al Gore touted himself as an environmentalist, his record while in office tells another story. For instance, at the first Kyoto conference, he lobbied to weaken the resulting treaty on global warming.

E. The Bottom Line

At this point, finger-pointing will do us about as much good as a circular firing squad.

60. If John Kerry is elected president, will that help the situation?

George W. Bush is not the problem and John Kerry is not the solution. Like Bush, Kerry is extremely wealthy, a Yale graduate, and a member of the secret society, "Skull and Bones." Kerry has promised to continue Bush's war on terror, which as you will see in Part VII, is really just a war for oil. He has paid lip service to developing alternatives to fossil fuels, but has never come close to mentioning the true scope of the crisis. He voted for the Patriot Act, was a key figure in the passage of NAFTA, voted yes for the war in Iraq and did so by unconstitutionally ceding the power to declare war from Congress to the President. When he did, he must have realized that he was helping to create a situation where by he would have the power to declare war should he be elected to office.

Put simply: electing Kerry into office will do nothing for us, unless they find a way to convert botox or ketchup into oil.

61. Why haven't I heard about this on the nightly news?

Peak Oil has been reported rather extensively in the [alternative media](#). It has been getting increasing coverage in the mainstream media, but the coverage is usually confined to the back page of a newspaper or an obscure part of a news agency's Website. There are a couple of reasons why you haven't heard more:

A. Corporate-Owned, Highly Consolidated Media

Every major media corporation trades on Wall Street and is heavily invested in, or sponsored by the energy, transportation, pharmaceutical and agribusiness industries. If the media was to publicly announce the truth about Peak Oil, investment in the stock market would evaporate, the economy would plunge, chaos would ensue, and the whole deck of cards would come crashing down before our leaders and corporate elite have a chance to secure their own well-being.

B. Ramifications of Peak Oil are Too Shocking to Deal With

The ramifications of Peak Oil are so serious that it is hard for anybody, including journalists and politicians, to accept it as reality.

C. Why Bother? People will Just Kill the Messenger

The average American may not be emotionally prepared to deal with Peak Oil. Peak Oil is a literal death sentence to much of our population as well as a figurative death sentence to the energy-intensive American way of life. When faced with such news, most people choose to ["kill the messenger."](#) As Jimmy Carter found out in 1980, making the end of the age of oil an issue is political suicide.

62. In light of the energy situation we are facing, why is the Bush administration spending money and cutting services like there's no tomorrow?

From their perspective, there is no tomorrow. They know that the future will be characterized by conflict, not cooperation. Why bother spending money on higher education when most of today's young people are more likely to be heading to the Middle East than the Ivy League? Why bother spending money on Social Security when the average recipient isn't contributing to the GNP at a time when we need all the money we can get to finance oil wars?

It's not just the Bush administration who feels this way. Recently, the president of the World Bank, James Wolfensohn, condemned the amount developed countries spend on defense, saying it was "madness" compared with the sums committed to aid projects. He told an audience in Australia:

We are spending 20 times the amount on military expenditure than what we are spending on trying to give hope to people. If a Martian came to Earth and read the UN's millennium development goals, and then looked at what we're doing, she'd think we

were mad. We are spending a trillion dollars a year on defense. We've got \$350 billion being spent in agricultural tariffs, but we're spending maybe \$50 billion on development.¹⁰²

The leaders of the world know that the first half of the 21st century is going to be characterized by global resource wars. They are simply taking the appropriate preparations, and making the appropriate budget cuts.

63. Why are we going off to the Moon and then to Mars at a time when we should be dealing with these oil shortages?

Going to the Moon and to Mars is related to dealing with the oil shortages in four ways:

A. To Develop Advanced Oil-Drilling Techniques:

[According to Halliburton scientist Steve Streich:](#)

Drilling technology for Mars research will be useful for the oil and gas industries. The oil industry is in need of a revolutionary drilling technique that allows quicker and more economical access to oil reserves. A Mars mission presents an unprecedented opportunity to develop that drilling technique and improve our abilities to support oil and gas demands on Earth.¹⁰³

B. To Develop and Deploy Space-Based Weapons ("Star Wars Missile Defense")

The domination of space has been a goal of the US military for many years. We are returning to space to achieve this goal. As General Joseph Ashy, former commander-in-chief of the US space command, said in 1996:

It's politically sensitive, but it's going to happen. Some people don't want to hear this, and it sure isn't in vogue, but absolutely we're going to fight in space. We're going to fight from space and we're going to fight into space. That's why the US has developed programs in directed energy and hit-to-kill mechanisms. We will engage terrestrial targets someday — ships, airplanes, and land targets — from space.¹⁰⁴

On February 17, 2004, the Pentagon released the "US Air Force Transformation Flight Plan." The document details a stunning array of exotic weapons to be pursued over the next decade: from an air-launched missile designed to knock satellites out of low orbit, to ground- and space-based lasers for attacking both missiles and satellites, to "hypervelocity rod bundles" (nicknamed Rods from God) designed to burst from space into the atmosphere at high speeds

and slam into deeply buried bunkers. Far from being aimed solely at the protection of US space capabilities, such weapons are instead intended for offensive, first-strike missions.¹⁰⁵

C. To Mine Helium-3 In Hopes That It Can Be Used As Fuel:

[Helium-3](#) is an element barely found on Earth, but found in abundance on the moon. Researchers see it as the perfect fuel source: extremely potent, nonpolluting, with virtually no radioactive byproduct. Helium-3 sounds great, until you find out that a nuclear fusion reactor is needed for it to be of any use. Even after 40 years of research and billions of dollars spent, nobody has been able to build such a reactor. Additionally, the economics of extracting and transporting Helium-3 from the moon are particularly problematic as it would require strip-mining large surfaces of the moon. Implementation of use of Helium-3 on Earth would also require many technologies yet to be created. Foremost among them are superconducting magnets, plasma control and diagnostics, robotically controlled mining equipment, life-support facilities, rocket-launch vehicles, telecommunications, power electronics, etc.¹⁰⁶

The fact that we are aggressively pursuing such an unviable source of fuel underscores how desperate the situation is getting.

D. To send more US jobs offshore

Just wanted to see if you were paying attention.

64. What about Bush's plan to give amnesty to the illegal immigrants from Mexico? Does that have anything to do with Peak Oil?

Mexico is the third leading oil supplier to the US. According to Dick Cheney's National Energy Report released in May 2001, "Mexico is a leading and reliable source of imported oil. It has a large reserve base, approximately 25% larger than our own proven reserves."¹⁰⁷

On May 8, 2003, the US Congressional Committee on International Relations voted to tie reform of US immigration laws with a requirement that Mexico open up its state oil company, Petroleos Mexicanos, to US corporate investors.¹⁰⁸ In other words, the US told Mexico, "Give us your oil and we will give you favorable immigration laws."

65. Does Peak Oil have anything to do with the war on drugs?

Yes. There is a famous saying which goes, "All 'wars' are about GOD: gold, oil and drugs." Two notable examples in which the war on drugs overlaps with the war for oil are Afghanistan and Columbia.

A. Afghanistan

In July 2000, Taliban supreme leader Mullah Mohammad Oman imposed a ban on opium production. In one stroke, 70% of the world's illicit opium production was eliminated. In October 2001, a UN report confirmed that the Taliban had successfully eliminated opium production in Afghanistan, which in recent years had supplied 90% of Europe's heroin.¹⁰⁹

This created a huge problem for the US economy, because it is supported in large part by money from the drug trade. Like any good businessman, a drug lord knows the best place to invest his money is the US stock market. Scholar Alan Labrousse, formerly editor of the respected *Geopolitical Drug Dispatch*, estimates that 85% of the profits from drug trafficking end up in the banks of wealthy countries or their branches in lesser developed countries, and that two-thirds stays in US banks.¹¹⁰ While the Department of Justice estimates that \$100 billion in drug funds are laundered in the US each year, other research places the figure at around \$250 billion per year. Catherine Austin Fitts, who was a Managing Director at Dillon Read, one of the most prestigious investment banks on Wall Street, before becoming Assistant Secretary of Housing under George Bush and who holds an MBA from Wharton, places the figure at \$250 to \$300 billion. Fitts has explained that due to the "multiplier effect," \$250 billion laundered would result in \$1.5 trillion dollars per year in US cash transactions resulting from the drug trade.¹¹¹

With that much money at stake, there is little wonder the US was so motivated to invade Afghanistan. Following the invasion, Afghan farmers began replanting opium fields at a furious pace. By 2002, opium production had returned to pre-2000 levels.¹¹² By 2003, the production of poppy (used to make heroin) had risen to a level 36 times higher than in the last year of rule by the Taliban.¹¹³ The US stock market responded accordingly.

B. Colombia

In 1996, the US-Colombia Business Partnership was founded to represent US companies with interest in Colombia, and a well-financed lobbying effort for just such intervention began. The companies represented by the Business Partnership included the Occidental Petroleum Corp, the Enron Corp, Texaco and BP Amoco, among others.¹¹⁴ Each had huge stakes in oil fields thought to exist under Colombian soil.

Three years later, under the guise of the war on drugs, Bill Clinton unleashed "Plan Colombia" which has provided \$98 million to train and equip Colombian military to protect an Occidental Petroleum pipeline. The Columbian military has used US military hardware against native Columbian peoples who have opposed oil and gas exploration by Occidental and Shell on their lands.¹¹⁵

66. I'm a Baby Boomer. What can I expect in the years to come?

You can expect the evaporation of any entitlement programs such as Social Security and Medicare in addition to being despised by your grandchildren's generation.

A. Dissolution of Entitlement Programs

If Alan Greenspan's announcement in March 2004 did not make it perfectly clear, let me do so: **you can kiss Social Security and Medicare goodbye.** If that is too blunt for you, consider economist Dr. John Attarian's more nuanced explanation of how oil depletion will affect entitlement programs:

The Congressional Budget Office projects that spending for Social Security, Medicare, and Medicaid will rise from 7.8 percent of GDP in 2001 to 14.7 percent by 2030. Assuming federal revenues remain roughly 20 percent of GDP, and entitlement programs are unchanged, the General Accounting Office forecasts that by 2030 federal outlays will be roughly 28 percent of GDP and Social Security, Medicare, Medicaid and interest on the debt will take 75 percent of revenues. By 2050, outlays will be almost 40 percent of GDP, and revenues will cover only half of them, making the budget deficit some 20 percent of GDP.

These frightening calculations reflect only an aging population, and ignore cheap oil's demise. Moreover, all forecasts by Social Security's and Medicare's actuaries, including the pessimistic ones, assume steady long-term growth in real wages, productivity, and GDP. Obviously, an economy crippled by higher inflation, soaring energy costs, rising unemployment, and stagnant productivity cannot carry these burdens. The oil crunch, then, will disastrously worsen the coming fiscal crisis of entitlements.¹¹⁶

B. Despised by Your Grandchildren

If you're a Baby Boomer, your parents' generation is often referred to as "The Greatest Generation." Unfortunately, your generation is likely to be referred to as the "The Greatest Wasting Generation."

Imagine you are a member of your grandchildren's generation, born in the year 2000. You will turn 16 in the year 2016, just as society is collapsing. You get your driver's license, but due to the worsening state of the economy and the incredibly high cost of gas, you are unable to get a car. Your prospects for college are virtually nonexistent, not because of any academic shortcomings, but because there is virtually no financial aid available and many colleges have closed. You have seen many of your friends drafted into the latest oil war, and are anxiously

trying to figure out a way to avoid their fate. As you contemplate your future, or lack thereof, you look around and see evidence of decades of wasteful consumption. Justifiably angry, you look for a scapegoat. Who better to scapegoat than the generation that consumed the most and conserved the least?

As author Daniel Quinn has poignantly stated, "If we consume the world until there's no more to consume, then there's going to come a day, sure as hell, when our children or their children are going to look back on us — on you and me — and say to themselves, 'My God, what kind of monsters were these people?'"

67. I'm a member of Generation X or Generation Y. How will Peak Oil affect me in particular?

If you haven't already figured it out, you can forget about the "house with a picket fence and a Lexus in the garage" dream. Three areas that are likely to be of interest to you are: your student debts, your investments, and your chance of being drafted.

A. Debt

The future will not be a good time to be in debt. Our prison population has grown 700% since 1980. The debt loads carried by many Americans have skyrocketed during that same time. As the economy begins to dissolve, and unemployment becomes endemic, many people will not be able to pay their debts. Although the practice was abolished centuries ago, it could become viable for the following reasons:

1. People unable to pay their debts will receive the opportunity to do so.
2. Industry benefits as it can now outsource labor to domestic work camps.
3. The construction and maintenance of work camps will provide additional jobs.

B. Stock Investments

Assuming the stock market even still exists in the year 2015, your investments will evaporate as the Baby Boomers attempt (in vain) to pull their money out for retirement. Right now all US stocks are considerably over-valued. If there is any doubt as to where the market is going in the long run, take a look at the actions of Warren Buffet. Buffet has pulled out of the market completely and has 12 billion in cash, rather than stocks. When somebody like Buffet

would rather have his money in a falling dollar than in stocks, you know something bad is around the corner.

C. Military Service

If you were born after 1980, you may be drafted to fight for oil. See Part VII for more information.

68. I own a Hummer. What can I expect in the years to come?

You're going to have a very difficult time obtaining gas. When people are sitting in three-hour-long gas lines, they're going to look for a scapegoat. As the owner of the most infamous gas guzzling SUV on the road, you're going to be targeted quite frequently. You may want to get that thing bulletproofed before gas rationing starts.

69. I'm having trouble believing that a country as powerful as the United States is on the verge of collapse.

Let's look at what has happened to the US in just the last four years: World Trade Center destroyed, budget surplus vanished, affordable health care gone, honest elections gone, 3 million jobs gone, hundreds of publicly traded companies gone bankrupt, social security close to gone, government oversight of big business gone, weakened infrastructure, shrinking middle class, undermined civil liberties, tainted food supply.

This is what happens when any civilization overshoots its resource base. It isn't a new thing. We won't be the first superpower to collapse. Over the course of history, the collapse of civilizations has been as inevitable as death and taxes. Any good book on the fall of the Roman Empire will give you case of *deja vu* next time you watch the evening news.

Those of us lucky enough to live in the United States are like the cool kids who got invited to the big party. Unfortunately, the party's over.

70. Is it possible that the government is actually trying to speed up the collapse?

Yes. From the government's perspective, a fast collapse may be better than a slow one. A slow crash may simply exacerbate the problems, because the population at the turning point of oil production will be even larger than it would be at an earlier date. The higher the population is, the higher the number of deaths that will result when the cheap oil runs out. In the eyes of our

government, a fast crash may be the "kindler, gentler" alternative. It also gives the American public less time to wake up as to what is really going on.

This would certainly explain why the government gives tax breaks to SUV owners at a time when it should be encouraging conservation. It would also explain why the deficit is being run up to a level that virtually assures the government will be bankrupt by the year 2011, which just happens to be the same year many predict world oil production will peak. The chance of this being a coincidence is slim. It appears to be a deliberate manipulation to squeeze out every dollar from those not in the know before it's too late.

Part VI. Peak Oil and America's March Toward Fascism

“I see in the near future a crisis approaching that unnerves me and causes me to tremble for the sake of my country. Corporations have been enthroned and an era of corruption in high places will follow, and the money power of the county will endeavor to prolong its reign by working upon the prejudices of the people until all wealth is aggregated in a few hands and the Republic is destroyed.”

-Abraham Lincoln (1864)

“Fascism should more properly be called corporatism because it is the merger of state and corporate power.”

-Benito Mussolini

“Beware of the military-industrial complex.”

-Dwight D. Eisenhower

71. Does Peak Oil have anything to do with September 11th and the war in Afghanistan?

The standard story regarding 9-11 is that Osama Bin Laden and his followers were angry at the US because we have military bases located near Muslim holy sites in Saudi Arabia. Motivated by this anger, Bin Laden and his followers callously attacked the US. While the standard story is no doubt true to an extent, I want you to consider a far more heinous possibility: that elements of the US government orchestrated the attack so as to gain domestic support for a worldwide oil war, better known as the war on terror.

I realize this is an exceedingly bold accusation. It is not one I expect you to accept at face value. The accusation is so extraordinary that proving it beyond a reasonable doubt would require an entire book in and of itself. It would also require investigative resources and a set of brass balls and/or a death wish that I do not possess. All that I ask is that you take six pieces of evidence into consideration. If these paltry six pieces of evidence cause you to question the official story, you can investigate the matter further on your own. If you choose to do so, the amount of evidence you will find that tends to show our government had a hand in the attacks will absolutely astonish you. Researcher Paul Thompson has assembled a tremendous amount of such evidence (all from respected, mainstream, highly reputable sources) and has made it freely available on his Website cooperativeresearch.org. If the following pieces of evidence arouse your suspicion, I encourage you to take a look at his site.

A. Evidence of Modus Operandi: Operation Northwoods

When confronted with the assertion that the US government orchestrated the 9-11 attacks, many people respond with something to the effect of, “No way our government would ever do something that heinous!” Unfortunately, a formerly top secret document known as “Operation Northwoods” plainly indicates that our government would.

Drafted in 1962, Operation Northwoods was presented to President John F. Kennedy on March 13, 1962. The document was declassified in 1997. By 2001, both the *Baltimore Sun* and *ABC News* ran stories on the document.¹¹⁷ The contents of the document are quite sobering, and I encourage you to read it in its entirety, for yourself.¹¹⁸ The document is available from dozens of reputable online sources such as the National Security Archive located at George Washington University.¹¹⁹

Operation Northwoods was drafted with the intent of getting public support for an invasion of Cuba. The Joint Chiefs of Staff argued the US population would only support military intervention in Cuba in the event of provocative, aggressive action by the island nation against American interests. The document frequently refers to staging fake attacks against

American interests. Had Operation Northwoods been carried out, it would likely have required the coordinative efforts of the Central Intelligence Agency, which is mentioned several times. Some of the recommendations of Operation Northwoods were:

- Stage mock attacks, sabotages and riots and blame it on Cuban forces.
- Sink an American ship at the Guantanamo Bay American military base or destroy American aircraft and blame it on Cuban forces. (The document refers to unmanned drones, fake funerals, etc.)
- Harassment of civil air, attacks on surface shipping and destruction of US military drone aircraft by MIG-type planes would be useful as complementary actions.
- Destroy a fake commercial aircraft supposedly full of "college students off on a holiday."
- Stage a "terror campaign," including the "real or simulated" sinking of Cuban refugees: "We could develop a Communist Cuban terror campaign in the Miami area, in other Florida cities and even in Washington. The terror campaign could be pointed at Cuban refugees seeking haven in the United States. We could sink a boatload of Cubans en route to Florida. We could foster attempts on lives of Cuban refugees in the United States even to the extent of wounding in instances to be widely publicized."

Fortunately, the document was rejected by Kennedy. Along with the Bay of Pigs invasion disaster, Operation Northwoods contributed to his efforts to break the military-industrial complex that was constantly asking for war.

By the year 2000, the military-industrial complex that Kennedy had hoped to break was (and is) in full control of the government. Given the similarities between the actions proposed in Operation Northwoods and the actual attacks carried out on 9-11, the document tends to prove the modus operandi on the part of the US government in regard to the attacks on 9-11.

B. Enron Mentality has Invaded Washington

Before I move on to the second piece of evidence, I want to touch briefly on the mentality that pervades the corridors of our national government.

You are probably already aware that Vice President Dick Cheney used to be CEO of oil giant Halliburton and that National Security Advisor Condoleeza Rice used to be on the board of Chevron. But did you know that 50 people appointed by Bush had ties to Enron? Most people

aren't aware that Enron CEO Ken Lay served on Bush's transition team and helped to pick many Bush appointees. Thomas White, the first Secretary of the Navy under Bush, was a senior Enron executive. White House Senior Advisor Karl Rove was a paid political consultant for Enron. Enron even managed to get three top officials into a private session with Dick Cheney to discuss the highly secretive energy plan his Task Force was working on.¹²⁰ The list goes on and on, but the point is clear: the people running our government have an Enron-style mentality.

The people in control do not care about you, me, or the people who died on 9-11 any more than Ken Lay cares about the Enron employees who lost their jobs, health care, and retirement. Do you think Ken Lay would hesitate to burn down his house if he thought doing so would get him a massive insurance payout? Do you think he would stop just because his maid and butler would die in the fire? Keeping that in mind, let's move on to our second piece of evidence.

C. Evidence of Motive: Excerpt from the Project for the New American Century's proposal, "Rebuilding America's Defenses"

The Project for the New American Century, or PNAC, is a Washington-based think tank created in 1997. Dick Cheney is a founding member of PNAC, along with Donald Rumsfeld and Defense Policy Board chairman Richard Perle. Deputy Defense Secretary Paul Wolfowitz is the ideological father of the group. In September 2000, the PNAC released a report entitled: "Rebuilding America's Defenses: Strategies, Forces, and Resources for a New Century," calling for unprecedented hikes in military spending, American military bases in Central Asia and the Middle East, toppling of noncompliant regimes, abrogation of international treaties, control of the world's energy sources, militarization of outer space, total control of cyberspace, and the willingness to use nuclear weapons to achieve "American" goals. The proposal is available, in its entirety, on the PNAC Website, www.newamericancentury.org. I encourage you to read it for yourself.

On page 52 of the proposal, PNAC acknowledges the need for a 9-11-style attack to get the American public to support their policy objectives, "Further, the process of transformation, even if it brings revolutionary change, is likely to be a long one, absent some catastrophic and catalyzing event – like a new Pearl Harbor." Their dream of a catalyzing event could not have been better actualized than in the events of 9-11. The PNAC document is certainly no smoking gun in regards to the 9-11 attacks. It is, however, a solid piece of circumstantial evidence tending to show that the PNAC signatories, turned Bush appointees, had a motive to orchestrate the 9-11 attacks.

PNAC's perverse desire for a 9-11-style attack was later echoed in an article in the Army War College's journal by Jeffrey Record, a former staff member of the Senate Armed Services

Committee. In his article, Record argues for the legitimacy of "shooting in the Persian Gulf on behalf of lower gas prices." He also "advocates the acceptability of presidential subterfuge in the promotion of a conflict" and "explicitly urges painting over the US's actual reasons for warfare with a nobly, high-minded veneer, seeing such as a necessity for mobilizing public support for a conflict."¹²¹

D. Evidence of Motive: Desire to Control Oil Located Under the Caspian Sea

Our government had sought to control the oil located under the Caspian Sea for years prior to 9-11. In order to control that oil, a pipeline needed to be built through Afghanistan. Speaking in Azerbaijan in 1997, Bill Clinton stated, "In a world of growing energy demand our nation cannot afford to rely on any single region for energy supplies. By tapping the Caspian Sea resources, we diversify our energy supply and strengthen our nation's security."¹²² Clinton's sentiments were echoed by other authoritative sources, such as the following article from the Foreign Military Studies Office of Fort Leavenworth, which was published three months prior to the 9-11 attacks. The article states:

The Caspian Sea appears to be sitting on yet another sea — a sea of hydrocarbon. Western oilmen flocking to the area have signed multibillion-dollar deals. US firms are well represented in the negotiations, and where US business goes, US national interests follow. The presence of oil resources and the possibility of their export raise concerns for the US.¹²³

The fact that the US government needed to invade Afghanistan to get the pipeline built is further evidence of a motive to orchestrate the 9-11 attacks.

E. . Evidence of Foreknowledge: Highly Suspicious Insider Trading

Between September 6-7, 2001, 4,744 put options (a speculation that the stock will go down) were purchased on United Airlines stock (UAL), as opposed to only 396 call options (speculation that the stock will go up). This is a dramatic and abnormal increase in sales of put options.¹²⁴ Many of the United put options were purchased through the firm Deutschebank/A.B. Brown, which was managed by current executive director of the CIA, A.B. "Buzzy" Krongard until 1998.¹²⁵ On September 10, 2001, 4,516 put options were purchased on American Airlines while only 748 call options were purchased. No other airlines showed any similar trading patterns to those experienced by United and American. The put option purchases on both airlines were 600 percent above normal.¹²⁶

None of this extraordinarily unusual trading went unnoticed by the CIA and many other intelligence agencies, which monitor stock trading in real time using highly advanced computer software. They do so to alert national intelligence services of just such kinds of attacks.¹²⁷

On September 29, 2001 — in a vital story that has gone unnoticed by the major media — the *San Francisco Chronicle* reported:

Investors have yet to collect more than \$2.5 million in profits they made trading options in the stock of United Airlines before the September 11 terrorist attacks, according to a source familiar with the trades and market data. **The uncollected money raises suspicions that the investors — whose identities and nationalities have not been made public — had advance knowledge of the strikes.**¹²⁸

It seems that somebody who knew about the attacks in advance decided they'd make a little money on the side. At the very least, you should be suspicious as to why the 9-11 insider trading issue hasn't received coverage on the nightly news while the Martha Stewart case is covered virtually 24/7. Could it be the mainstream media has something very big to hide? Could it be that the mainstream media is controlled by Wall Street, and coverage of the 9-11 insider trading issue would reveal some less-than-honorable connections between Wall Street corporations and the attacks?

F. . More Evidence of Foreknowledge/Preplanning: Invasion of Afghanistan Planned Months Before 9-11

According to a December 2002 article in the *Sydney Morning Herald*, "The months preceding September 11 witness a shifting of the US military's focus. Over several months beginning in April 2001 a series of military and governmental policy documents are released that seek to legitimize the use of US military force in the pursuit of oil and gas."¹²⁹

In April 2001, Tommy Franks, the commander of US forces in the Persian Gulf/South Asia area, testified to Congress that his command's key mission is "access to the region's energy resources." The next month, US Central Command begins planning for war with Afghanistan, plans that are later used in the real war.¹³⁰

If the invasion of Afghanistan was in response to the "surprise" attacks on 9-11, why was our government planning the invasion months prior to the attack? The logical inference is that the attacks were not "surprises" to our government.

G. Evidence of Complicity the Morning of the Attacks: Failure to Scramble Fighter Jets.

The official policy of NORAD and the FAA is to scramble fighter jets the moment any airplane veers off its flight. The scrambling of the jets requires absolutely no input from the president or anybody else. It is automatic and well-practiced routine. Between September 2000

and June 2001, fighters were launched on 67 occasions to escort wayward aircraft.¹³¹ A notable occasion occurred in October 1999 when pro golfer Payne Stewart's Learjet departed from its flight path while en route to Dallas. In that incident, an F-16 was scrambled immediately, and was sitting off the left wingtip of Payne's jet in under 20 minutes.¹³²

But on 9-11, NORAD and the FAA ignored routine procedures and strict regulations. They waited an astonishing 75 minutes before scrambling aircraft, even though it was known that four simultaneous hijackings had occurred. Once the fighters were in the air, they proceeded at a measly 450 mph, only one-quarter of their top speed.¹³³ Not surprisingly, they never got to the hijacked airliners.

Given the fact it was well known that four airliners had been simultaneously hijacked the morning of 9-11, the failure to scramble fighter jets tends to show gross criminal negligence, if not out-and-out complicity, on the part of our government in regards to the attacks.

H. Impeachment Material: Engineered Collapse of World Trade Center 7.

WTC 7 was the third skyscraper to collapse into rubble on 9-11. According to the government, [small fires](#) leveled this building. That is extremely odd, as fires have never before or since destroyed a steel skyscraper. The [team](#) who investigated the collapse was not allowed access to the crime scene. By the time they published their inconclusive report, the evidence had been destroyed.¹³⁴

Why would the government want anything less than a complete, thorough, and conclusive investigation into how WTC 7 collapsed? Could it be that they have something to hide? One is inclined to suspect that they do, after examining the extraordinarily suspicious manner in which the building collapsed.

WTC 7 collapsed in a precisely vertical fashion. Buildings do not collapse in this fashion unless the collapse is engineered. . Less than seven seconds after Building 7 began to implode, all that was left of the steel skyscraper was a rubble pile. The rubble pile is notable for several features, the most curious of which is its tidiness. The pile was completely contained within the "footprint" of the building. No random events, such as fires or explosions, could be expected to result in such a tidy and complete collapse. The only time a building collapses within its footprint is when the collapse is due to controlled demolition. In fact, collapsing a building within its footprint is one of the main objectives of a controlled demolition. It makes the task of carting away and destroying the evidence much easier. Dr. Frederick W. Mowrer, an associate professor in the Fire Protection Engineering Department at the University of Maryland, was quoted in the *New York Times* as saying, "I find the speed with which potentially important evidence has been removed and recycled to be appalling."¹³⁵

In a criminal trial, a prosecutor can "impeach" a defendant who takes the stand by introducing evidence that the defendant lacks credibility and should not be trusted. Impeachment, in and of itself, does not guarantee a guilty verdict. What it does do is prove to the jury that they should not trust anything the defendant says.

Should elements of our government ever be prosecuted for orchestrating the 9-11 attacks, the fact that they told us the collapse was due to fires when all the evidence shows it was due to controlled demolition could be used for impeachment purposes.

I. Why Would They Do This to Us?

At this point, you may be thinking, "Okay, so there's some suspicious evidence. But why would our government do something so horrible?" The answer is simple: with the effects of Peak Oil becoming more and more obvious, our government needed an excuse to conduct a worldwide war for oil. 9-11 provided that excuse.

The government has known about Peak Oil since at least the 1970s, when the CIA published a report indicating that the domestic oil production in the Soviet Union would peak in 1987.¹³⁶ By the mid to late 1990s, the first signs of the impending worldwide peak began to appear. The energy and defense elite concluded that if they didn't gain access to more of the world's oil supply, the US economy would dissolve. Motivated in equal parts by survival and greed, they sponsored a coup, also known as the 2000 election.

Once in office, this energy-and-defense-controlled administration attempted to implement their radical agenda. When their administration ran into unexpected opposition, they become increasingly desperate. "What would have to happen to get the American people to accept a radically militaristic agenda abroad and a police state at home?" they ask themselves. They dust off Operation Northwoods, update it for the 21st century, and proceed to provoke, if not outright plan, the attacks on September 11th.

With the American people in shock at the horror of the attacks, the administration declares two wars: a foreign war for oil, aka the war on terror, and a domestic war on dissent. The first objective in the war for oil was to secure access to the oil in the Caspian Sea. This required an invasion of Afghanistan, which was promptly conducted. When the oil find in the Caspian Sea turned out to be an oil bust, the administration turned its attention towards Iraq, which found itself a target in both the oil war and a currency war, which is explained further in Part VII.

J. Conclusion.

I realize this seems outlandish, but it is the only theory that adequately explains the administration's actions of the past few years. Again, I don't expect you to accept this theory at face value. If the six pieces of evidence I have presented to you arouse your suspicion, even slightly, I encourage you to do further research on your own. If you do, I warn you that you are likely to come to one conclusion: on September 11, 2001, 3,000 of our citizens found out the end of the oil age is truly a life-and-death game.

Even if you are unwilling to subscribe to the theory that our government orchestrated the attacks, there is no doubt that the Bush administration, and business interests tied to it, benefited greatly from the attacks. As a result of 9-11, Bush's popularity skyrocketed. This allowed him to force the Patriot Act through Congress, pass massive tax cuts, run the deficit up to mind-boggling levels, invade one country thought to sit near significant amounts of oil, invade another country known to sit atop significant amounts of oil, and then threaten to invade any other country that sits atop or near significant amounts of oil.

The first question any homicide investigator asks himself upon reaching a crime scene is, "Who would have benefited from this?" If you haven't done so already, you should ask yourself the same question in regards to the attacks on 9-11. As Franklin Roosevelt said, "In politics, nothing happens by accident. If it happened, you can bet it was planned that way."

72. Does Peak Oil have anything to do with legislation such as the Patriot Act?

When the cost of food soars, the military draft is reinstated, Social Security officially dissolves, gas hits \$6.00 a gallon, the stock market crashes, and returning veterans are denied the health care that was promised to them, large-scale rioting will erupt. The only way to control the population will be through the institution of a fascist-style police state. The Patriot Act and related legislation are the foundation for that state.

If you haven't read up on the Patriot Act, you should. Some of its provisions, while they may not have been implemented yet, are truly frightening. According to the Act, the government may:

1. Search and seize Americans' papers and effects without probable cause to assist in terror investigations.
2. Imprison Americans indefinitely without a trial.
3. Monitor religious and political institutions without suspecting criminal activity.

4. Conduct closed once-public immigration hearings, secretly detain hundreds of people without charges, and encourage bureaucrats to resist public records requests.

Section 802(a)(5) of the Patriot Act defines "Domestic Terrorism" as "activities that — involve acts that are a violation of the criminal laws of the United States or of any state and appear to be intended to influence the policy of a government by intimidation or coercion." According to this definition, Rosa Parks would have been considered a terrorist for not giving up her seat on the bus.

It's not just the Patriot Act you need to read up on. Several other pieces of legislation promise to turn the US into a fascist-style police state:

A. Model State Emergency Health Powers Act

In November 2001, the Bush administration issued executive orders allowing for the use of special military courts and empowering Attorney General John Ashcroft to detain non-citizens indefinitely; the Model State Emergency Health Powers Act (MEHPA) has been introduced to the governors of all 50 states. MEHPA calls for mandatory vaccinations and allows for confiscation of citizen's real estate, food, medicine and other private property, and outlines plans to herd afflicted citizens into stadiums.¹³⁷

B. Homeland Security Bill

On November 25, 2002, after the 32-page Homeland Security Bill ballooned to nearly 500 pages overnight, and was railroaded through the Senate and Congress, it was signed into law. Rep. Ron Paul (R-TX) says the bill "expands the federal police state"; Sen. Patrick J. Leahy (D-VT) says it represents "the most severe weakening of the Freedom of Information Act" in 36 years; and Sen. Robert Byrd (D-WV) worries amendments "expand the [administration's] culture of secrecy." Rep. Dennis Kucinich (D-OH) claims that "the ability of a special interest group to secretly insert provisions into law for its own narrow benefit and to the detriment of the public interest raises fundamental questions about the integrity of our government."¹³⁸

C. Homeland Security Gun Safety Act

By November 2003, the Homeland Security Gun Safety Act was making its way through the Senate. According to the Act, any time the Homeland Security threat level rises to "elevated" or higher, law enforcement authorities would not be required to complete mandatory background checks on firearms purchasers within the current limit of three business days. Unlike current law, which mandates near-immediate destruction of records of background checks if the sale is

approved, the Act would allow authorities to maintain the registry of new gun owners "indefinitely."

The proposal is eerily similar to Germany's Law on Firearms and Ammunition which required all firearms to be registered with the federal government. Although the law was passed in 1928, prior to the Nazis coming to power, Hitler's regime used the registration lists to confiscate firearms belonging to Jews and suspected "sympathizers."¹³⁹

Some of you might be thinking to yourselves, "What's so bad about increased gun control? Guns are dangerous and used to kill people." All I can say is when you get to heaven, go ask George Washington, Thomas Jefferson, Harriet Tubman, John Brown, or any of the Jewish resistance fighters of World War II what they thought about gun control. The first thing every fascist-style police state does is restrict gun ownership. The plantation owners in the old American South didn't want the Blacks to have access to guns, the Nazis didn't want the Jews to have access to guns, and the Coalition Provisional Authority (CPA) in Iraq doesn't want the Iraqis to have access to guns. In fact, one of the first demands the CPA made of the Iraqis was for them to turn in their guns.

D. Victory Act

In the fall of 2003, a draft of the proposed Victory Act began circulating Capitol Hill. The Act seeks, amongst other things, to define drug possession as a terrorist act and to punish it with mandatory 20-year-to-life sentences.¹⁴⁰

73. Gosh, don't you think you're making a big deal out of nothing? I'm not a fan of the Patriot Act or Homeland Security, but really — this is just unnecessary alarmism.

When fascist police states emerge, they tend to do so slowly. German Professor Milton Mayer lived through the Nazi era. In his book, *They Thought They Were Free: The Germans 1939-1945*, he explains how fascism emerges:

You speak privately to your colleagues, but what do they say? They say, "It's not so bad" or "You're seeing things" or "You're an alarmist." And you are an alarmist. You are saying that this must lead to this, and you can't prove it. These are the beginnings, yes; but how do you know for sure when you don't know the end, and how do you know, or even surmise, the end?

To live in this process is absolutely not to be able to notice it — please try to believe me — unless one has a much greater degree of political awareness, acuity, than most of us

had ever had occasion to develop. Each step was so small, so inconsequential, so well explained, or, on occasion, "regretted," that, unless one were detached from the whole process from the beginning, unless one understood what the whole thing was in principle, what all these "little measures" that no "patriotic German" could resent must some day lead to, one no more saw it developing from day to day than a farmer in his field sees the corn growing. One day it is over his head.¹⁴¹

When Adolf Hitler defended the creation of the Gestapo in Nazi Germany, he stated, "An evil exists that threatens every man, woman, and child of this great nation. We must take steps to ensure our domestic security and protect our homeland." When John Ashcroft defended the signing of the Patriot Act in December of 2001, he stated, "To those who scare peace-loving people with phantoms of lost liberty, my message is this: your tactics only aid terrorists for they erode our national unity and diminish our resolve. They give ammunition to America's enemies and pause to America's friends. They encourage people of good will to remain silent in the face of evil." When Ashcroft testified on behalf of the Act, he stated, "...those who oppose us are providing aid and comfort to the enemy." These are carefully chosen words. "Aid and comfort to the enemy" are the words used in the Constitution to define Treason, the most hateful of crimes against the state. In other words, protest against the government — the singular right without which America would not even exist — is now being defined as trying to overthrow the government.¹⁴² On August 14, 2002, the *Los Angeles Times* reported that Attorney General John Ashcroft announced his desire for camps for US citizens he deems to be "enemy combatants."¹⁴³

By the logic of our government, the institution of a fascist-style police state is entirely reasonable. The needs of the people must be subordinated to the needs of the nation, which is increased and unfettered access to the world's oil supply.

Interestingly enough, Attorney General John Ashcroft's biggest campaign donors to his failed run for Senate were Exxon Mobil and BP Amoco.¹⁴⁴ He understands that the end of oil spells the end of America as we know it. He is simply making the appropriate preparations.

74. Would this explain why our military and police forces have been investing so much in "crowd control" and "non-lethal" technology?

It sure would. You didn't see the Marines flushing Uday and Qusay out of that house with anything non-lethal, did you? You think the Marines are going to bust into Osama's cave with non-lethal weapons? No way, they're saving that stuff for you.

Part VII: Peak Oil and Global War

"I know not with what weapons World War III will be fought, but World War IV will be fought with sticks and stones."

-Albert Einstein

"Never, never, never believe any war will be smooth and easy, or that anyone who embarks on the strange voyage can measure the tides and hurricanes he will encounter. The statesman who yields to war fever must realize that once the signal is given, he is no longer the master of policy but the slave of unforeseeable and uncontrollable events."

-Winston Churchill

"Class, in the case of a nuclear attack, get under your desks, put your hands over your head, and kiss your asses goodbye."

Anonymous Hebrew School teacher

"Life without cheap oil is going to be just like life during the Bible. Well, at least the bad parts of the Bible."

-Matt Savinar

75. What is the government doing to solve this problem?

The government has two solutions for this problem: steal what little cheap oil is left and kill whoever gets in the way.

A. Steal What's Left

Our government's first solution to the coming oil shortages was publicly announced in April 2001, when a report commissioned by Dick Cheney was released. That report explained that the "central dilemma" for the US administration is that "the American people continue to demand plentiful and cheap energy without sacrifice or inconvenience." It warned that the US is running out of oil, with a painful end to cheap fuel already in sight. It argued that "the United States remains a prisoner of its energy dilemma," and that one of the "consequences" of this is a "need for military intervention" to secure its oil supply.¹⁴⁵

In other words, our leaders have decided to make a last-ditch grab for what little cheap oil is available by stealing it from the nations that have it. With control over the world's dwindling supplies of cheap oil, they will have the ability to choose who lives and who dies.

B. Forced Depopulation of Oil-Rich Areas

Our government's other solution to the coming oil shortages is forced depopulation of oil-rich areas. This policy is nothing new and not unique to any one political persuasion. In 1968, environmentalist Dr. Paul Ehrlich published *The Population Bomb*, which has sold upwards of 20 million copies, and exerted a huge influence upon policy makers. According to Ehrlich:

Our position requires that we take immediate action at home and promote effective action worldwide. We must have population control at home, hopefully through a system of incentives and penalties, but by compulsion if voluntary methods fail. We can no longer afford merely to treat the symptoms of the cancer of population growth; the cancer itself must be cut out.¹⁴⁶

Dr. Ehrlich goes on to say that compulsory birth control could be imposed by governments via the addition of "temporary sterilants to water supplies or staple food."¹⁴⁷

A few years later, the brutal methods advocated by Ehrlich were adopted by the US government as official policy. On Dec. 10, 1974, the US National Security Council under Henry Kissinger completed a classified 200-page study, "National Security Study Memorandum 200: Implications of Worldwide Population Growth for US Security and Overseas Interests

(NSSM)." The study claimed that population growth in the so-called Lesser-Developed Countries was a grave threat to US national security. The study explains:

The location of known reserves of higher-grade ores of most minerals favors increasing dependence of all industrialized regions on imports from less-developed countries. The US economy will require large and increasing amounts of minerals from abroad, especially from less-developed countries. That fact gives the US enhanced interest in the political, economic, and social stability of the supplying countries. Wherever a lessening of population pressures through reduced birth rates can increase the prospects for such stability, population policy becomes relevant to resource supplies and to the economic interests of the United States.¹⁴⁸

Adopted as official policy in November 1975 by President Gerald Ford, NSSM 200 outlined a covert plan to reduce population growth in those countries through birth control, and also, implicitly, war and famine. Brent Scowcroft, who had by then replaced Kissinger as national security advisor, was put in charge of implementing the plan. CIA Director George Bush was ordered to assist Scowcroft, as were the secretaries of state, treasury, defense, and agriculture.¹⁴⁹ Thomas Ferguson, the Latin American case officer for the Office of Population Affairs, described the group's work:

There is a single theme in all our work — we must reduce population levels. Either the governments do it our way, through nice, clean methods, or they will get the kind of mess that we have in El Salvador, or in Iran or Beirut. Population is a political problem. Once population is out of control it requires authoritarian government, even fascism, to reduce it. We aren't interested in lowering population for humanitarian reasons. We look at resource and environmental constraints.¹⁵⁰

NSSM 200 has been consistently updated by military and intelligence assessments. For instance, a study done in 1988 for the Pentagon, entitled "Global Demographic Trends to the Year 2010: Implications for US Security," that appeared in Spring 1989 issue of *The Washington Quarterly*, calls upon high-level security planners to ensure that "population planning" is given the status of weapons development. Similarly, a 1991 report to the US Army Conference on Long-Range Planning warns that current population trends raise serious concerns about "the international political order and the balance of world power." The document — reprinted in the summer 1991 issue of *Foreign Affairs*, as "Population Change and National Security" — says that these changes "could create an international environment even more menacing to the security prospects of the Western alliance than was the Cold War for the past generation."¹⁵¹

I have no "smoking gun" piece of evidence that proves the US has consciously attempted to depopulate oil-rich nations such as Iraq. However, when one considers the evidence described above alongside the documented effects that economic sanctions and Depleted Uranium (DU) munitions have had on the Iraqi population, a logical inference can be made that the depopulation of Iraq has been an official, albeit unannounced, US policy.

Shortly after the Iraq invasion of Kuwait in August 1990, the UN Security Council imposed comprehensive economic sanctions against Iraq. When the coalition ousted Iraq from Kuwait the following year, the Council chose to keep the sanctions in place. For the next 13 years, the US and Britain, both members of the Security Council, made it clear that they would block any lifting or serious reforming of sanctions.

The effects of these sanctions on the Iraqi population, particularly its young children, have been absolutely devastating. In 1980, approximately 43,000 Iraqi children under the age of five died. By 1990, this number had dropped to 35,000 per year. In 1991, the year after the sanctions were imposed, the number jumped to 92,000 per year. By the year 2000, that number had jumped to 104,000 per year.¹⁵²

It is estimated that from 1991-1998, half a million Iraqi children under the age of 5 died as a result of the sanctions.¹⁵³ If the years 1999-2003 are factored in, the number would likely be closer to 1 million. As staggering as that number is, its true magnitude is recognized only when you consider that Iraq's total population is only 24 million. In comparison, the US has a population of 280 million, or twelve times that of Iraq. So a million dead children in Iraq is mathematically equivalent to 12 million dead children in the US.

There is little doubt that the US intended for this many Iraqi children to die. Professor Thomas Nagy of George Washington University unloaded a massive compilation of US Government documents from 1990-1991 that showed in no uncertain terms the malevolent intent to target sites of vital civilian importance in the first Gulf War. In an exposé entitled "The Secret Behind the Sanctions" Nagy cites macabre foreknowledge of the effects of bombing water purification and sewage treatment facilities which provide clean water to the Iraqi people. Moreover, these documents detail how the economic sanctions, imposed when Iraq invaded Kuwait in August 1990, would crescendo the effects of the bombings by banning items like water chlorinators and spare parts to rebuild the obliterated infrastructure, claiming that they could serve "dual use" purposes in making weapons of mass destruction.¹⁵⁴

That a program of depopulation is in place in Iraq is further evidenced when one considers the effects that Depleted Uranium (DU) munitions have had on the Iraqi population. DU is a by-product of nuclear waste. When placed in the tip of a projectile, the projectile acquires armor-piercing capability. When a tank is covered with DU armor, the tank becomes

impervious to enemy rounds. When a DU round explodes, it "aerosols," spreading nuclear waste into the air and ground.

During the first Gulf War, the US dropped so much DU on Iraq that in Basra, cancer rates have since jumped by 1,000 percent while infertility rates have doubled.¹⁵⁵ In some cases, the radiation was so bad that [67% of American Gulf War veterans ended up having babies with serious birth defects.](#)¹⁵⁶ In 2003, we dropped so much DU on Baghdad that [radiation levels rose to 1,000 times normal.](#)¹⁵⁷ According to the former chief of India's Navy, the total amount of radiation in Iraq in 2003 is equivalent to the amount that would be produced by 250,000 Nagasaki Atom Bombs.¹⁵⁸ DU has a half-life of 4.5 billion years. Essentially, we have eliminated the Iraqi population (and many of our own troops) from the healthy human gene pool.

C. Conclusion

The dynamics of our electoral system prevent our leaders from developing any plans to deal with this situation that are not predicated on violence and cold, hard, cost-benefit analysis. The biggest campaign contributors are companies from the transportation, energy, defense, and pharmaceutical industries. Corporate officers from these industries find themselves either elected into office or appointed to significant advisory positions. After years in the corporate sector, these individuals have been conditioned to think solely in terms of assets, liabilities and profits. Access to oil = asset; anybody who gets in the way = liability. To be profitable, you must maximize assets and minimize liabilities. It is as simple as that.

76. So the war in Iraq was about oil? Was Saddam the true target?

The theory that the current war in Iraq is simply "blood for oil" is only partially true. Iraqi oil has never been that important to the US oil supply. The US consumes about 20 million barrels of oil per day. As of 2002, only 300,000 of these barrels were imported from Iraq.¹⁵⁹ Mexico, Canada and Saudi Arabia each export about 2 million barrels of oil to the US every day. If the US had simply wanted more oil, it could have just demanded a bit extra from any of those countries. While Iraq is one of the few remaining countries with an ability to increase its production, its infrastructure is so dilapidated that cheap Iraqi oil won't be finding its way into your gas tank for quite a while. While the desire of the US to gain access to Iraqi oil shouldn't be underestimated, it was not the sole or even primary motivation for the invasion.

The true target of the invasion was the European economy, not Saddam Hussein. The true weapon of mass destruction was the euro, not anthrax. For the past 60 years, the dollar has served as the international reserve currency for global oil transactions. This allowed the US to effectively control global oil transactions. The dollar's hegemony faced a serious threat in

November 2000, when France persuaded Saddam to switch from the dollar to the euro as the currency for its oil transactions. This caused the euro to gain considerably against the dollar. Had OPEC followed Iraq's lead, the US economy would have experienced a complete meltdown. As columnist Paul Harris explains:

Oil-consuming nations would have to flush dollars out of their central bank reserves and replace them with euros. The dollar would crash in value and the consequences would be those one could expect from any currency collapse and massive inflation. Foreign funds would stream out of US stock markets and dollar-denominated assets; there would be a run on the banks much like the 1930s; the current account deficit would become unserviceable; the budget deficit would go into default, and so on.¹⁶⁰

Pre-empting this threat was one of the most strategic hidden reasons for the decision to go for regime change in Iraq. The future of America's sole-superpower status depended on pre-empting the threat emerging from the EU. Iraq was and is a chess piece in a far larger strategic game, one for the highest stakes.¹⁶¹

Put simply: Saddam was a red herring; the true target of Operation Iraqi Freedom was Europe. Now that worldwide oil production is peaking, you can expect more of these "currency wars." Once oil production begins declining, the worldwide economic pie will begin shrinking. The only way for a nation to maintain its piece of that pie is to wage both oil and currency wars.

Morality aside, the Bush Administration's unwavering determination to invade Iraq makes a lot more sense when seen against the backdrop of these facts.. Many people feel the Bush-led invasion of Iraq has undermined our national and economic security. What they fail to realize is that the invasion dissuaded OPEC from wholeheartedly embracing the euro. Had Bush not invaded Iraq, the dollar would have collapsed, the euro would have ascended, and America would have lost whatever national and economic security we have left. Of course, if we had been willing to voluntarily change our lifestyle beginning in 1973, we would never have found ourselves in a situation in 2003, where an invasion was necessary to prevent an economic collapse.

77. Iraq, Afghanistan... Who else is on the hit list?

Any country with significant oil reserves. As you watch the news, you will notice hints are already being dropped. "Iran has WMD" or "Syria isn't cooperating in the war on terror" or "Saudi Arabia is funding terrorism" or "The war on terror will last for decades." The stage is being set so that the American public will accept these future invasions.

It's not just Middle East countries that are on the hit list. Venezuela and Columbia have significant oil reserves, as do many countries in West Africa. While you may not see full-scale invasions of these countries, you are likely to see increased military intervention.

78. So if all these wars are for oil, why are we in Haiti? They don't have oil.

Haiti's geographic location makes it a perfect jumping-off point for military intervention in Venezuela, Columbia, and Cuba.

79. What's going to happen when recently industrialized China decides it needs what little cheap oil is left as bad as the United States does?

World War III.

A silent energy war between the US and China has already broken out on a full scale. Figuratively speaking, the first shots in this war were fired during the lead-up to the US-led invasion of Iraq. China vehemently opposed the invasion, not because of any humanitarian concerns, but because the China National Petroleum Company had long sought to secure major oil supplies from Iraq.

In recent months, China and Saudi Arabia have signed several oil and natural gas contracts. These agreements make the US nervous as it depends on two key allies in the region, Saudi Arabia and Egypt, for control of the Middle East. Some signs suggest that Saudi Arabia and China are developing a weapons-for-oil deal.

80. Well, at least we don't have to worry about Russia anymore. After 9-11, they said they would support us. They're our friends now, right?

If Russia is considered a "friend," the US doesn't need any enemies. Russian President [Vladimir Putin has been building up Russia's nuclear capability since 1999 because he \(justifiably\) fears](#) the US is trying to muscle in on the relatively modest oil reserves located in the Caspian Sea.

Russia flexed its muscles after the April 2002 summit to try to settle the Caspian Sea issues. Within hours of leaving the summit, President Putin ordered the largest naval exercises in the Caspian Sea's history, which were carried out for two weeks in August 2002. While Russia insisted that this exercise was designed to confront problems of terrorism and poaching, many saw it as a clear show of its military dominance in the area.¹⁶²

As of February 2004, [Russia's nuclear forces are reportedly preparing their largest maneuvers in two decades](#), an exercise that will involve the test-firing of intercontinental missiles and flights by dozens of bombers in a massive simulation of an all-out nuclear war.¹⁶³

It's worth noting that oil production inside the Soviet Union reached its peak in 1987. This put the already unstable Soviet economy in a very precarious position. Hoping to capitalize on this turn of events, the US prevented the Soviets from obtaining additional oil from foreign nations. The resulting shortfall in oil supply was a primary, albeit rarely discussed, factor in the collapse of the Soviet Union.

Many high-level officials in the Russian government remember the "good ole days" when they were at the helm of one of the world's two superpowers. They remember well that US foreign policy played a hand in the Soviet collapse. They would like nothing more than to give the US a dose of its own medicine. By uniting with countries such as France and China (see next question), they might get their chance.

81. Is it possible that China and Russia might get together and gang up on the US?

Yes. Concerned about the US pursuit of "Star Wars," China and Russia met in January 2001 (eight months before 9-11) to work out a treaty to proclaim their friendship. Jonathan Pollack, chairman of the Strategic Research Department at the Naval War College, says the treaty is a significant move and reflects China and Russia's deep concerns about US foreign policy.¹⁶⁴ Those concerns have deepened considerably in the past three years, as the US has become increasingly aggressive, China has become increasingly industrialized, and oil has become increasingly scarce.

82. What about other "Westernized" countries? Don't they need oil also? What are we going to do about them?

No country is safe. As explained previously, the war in Iraq is the first battle in the US-led war against the EU. This should not come as a surprise, as several high-level officials in the Bush Administration have been publicly pushing a plan to force nations to ["choose between Paris and Washington."](#)¹⁶⁵ The US wants to make sure that Saudi Arabia, who exports more oil to the EU than it does to the US, chooses Washington.

On a similar note, Canada is required by NAFTA to sell 60% of its natural gas to the US. When Canada begins to experience the energy shortage, they may seek to change the terms of that law. The US is unlikely to allow them to do so.

83. War with Canada?! You can't be serious?! That's inconceivable!

Is it conceivable that the US would go to war with Saudi Arabia? Most people believe it is, because they know we get a good deal of oil from the Saudis. What they don't realize is that we get even more of our oil from the Canadians. As of 2002, the US imports 1.8 million barrels per day from Saudi Arabia, and 2.1 million barrels per day from Canada.

While a war with Canada seems unlikely right now, don't think it can't happen. At the turn of the 20th century, Germany was considered one of the most socially advanced, benevolent, and civilized nations in the world. Thirty years later, it had degenerated into one of the most barbaric states in history. The German people, who were starving during the 1920s, accepted, even embraced, the barbarism because they had been promised it would put food on their tables. The human mind, regardless of whether it resides in a German body in 1933 or an American body in 2023, can get pretty warped when food gets scarce.

Think about it this way: if your family was starving, and you saw that your neighbor had food, would you consider taking it by force? Most people would. Remember, that as explained in Part I, oil production = food production. If Americans can't get food (oil), we're going to take it from whomever has it.

84. You forgot about North Korea.

Oh yeah, them, too. If you had any doubt that these wars are as much about currency as they are about oil, consider the fact that North Korea wasn't put on the hit list until December 2002, when Kim Jong made the same mistake Saddam made: he embraced the euro.¹⁶⁶

85. Gosh, this sounds worse than World War II.

Speaking of which, there is also Japan, which is second only to the US in terms of yearly oil consumption. When the time comes, Japan is well-situated to defend its oil interests. As Dr. Helen Caldicott points out:

Japan is a country with the third-largest military in the world, with the world's most advanced technological base, a country with an aggressive past and huge stockpiles of pure plutonium, on the cusp of nuclearization. With a week's notice, Japan could construct nuclear weapons if it so decided. (Japan maintains the third-largest military in the world because it can legally spend only one percent of its GNP on weapons, but it has a huge GNP.) China is well aware of these possibilities, and Japan is an old enemy of China. The nuclearization of Japan could trigger a nuclear arms race between South Korea and Japan, two countries with deep enmities.¹⁶⁷

In February 2004, Japan signed an agreement with "axis of evil" member Iran to allow Japan to develop a major oil field in southwestern Iran. The agreement will provide a key source of oil for resource-poor Japan, which is also pursuing similar arrangements in Russia and other countries. The agreement drew considerable concern from the US which believes that Iran will use the agreement to pursue nuclear weapons development.¹⁶⁸

Lest we forget history, the US entered World War II after Japan attacked Pearl Harbor, in retaliation for Franklin Roosevelt cutting them off from their oil supply. World War II ended when the US dropped atomic bombs on Hiroshima and Nagasaki.

86. So how do the alliances shape up for the coming oil wars?

US, Britain, and Israel on one side; the EU, China, Russia on the other. Japan, Canada, and Mexico are wildcards. Primary battlegrounds will be the Middle East, with possible action in West Africa, Venezuela, and Columbia. You don't have to be a prophet to read the writing on the wall. Just watch the news and put the pieces together.

87. Isn't this going to require a reinstatement of the draft?

Yes. For several years now, every young man, and possibly many young women, has been earmarked as soldiers for future oil wars. As the following pieces of evidence demonstrate, the march towards reinstatement of the draft has been under way for a number of years.

A. States Enact Legislation to Coerce Young Men to Register With the Selective Service

In August 2000, Delaware became the first state to enact legislation linking drivers' license applications to Selective Service registration. By October 2002, 27 states, 2 territories, and the District of Columbia followed suit. Commenting on this trend, Virginia's Gov. Mark Warner says, "In this time of war, we need to make sure that we have a full sign-up Selective Service," while adding, "I think most boys would be proud to do it."¹⁶⁹

B. Canada and US Sign Declaration, Make Escaping the Draft Impossible

In December 2001, Canada and the United States signed the "Smart Border Declaration." Designed to identify and manage security risks, this plan calls for the implementation of a Canada-US "pre-clearance agreement," the sharing of "advance passenger information" and the development of a jointly-held immigration database and programs for "joint removals of deportees." Though designed to fight terrorism, the plan will likely be used to make escaping to Canada more difficult once the draft is reinstated.¹⁷⁰

C. "No Child Left Behind" Act Requires Schools to Give Students' Personal Information to the Military

In January 2002, George Bush signed the "No Child Left Behind" Act into law. The Act contains a well-hidden section entitled *Sec. 952: "Armed Forces Recruiter Access to Students and Student Recruiting Information"* which requires high schools to provide the military with the name, address and phone number of every student.¹⁷¹

D. Military Fails to Attract Enlistees

According to a report commissioned by the Department of Defense, despite a threefold increase in advertising, recruitment attempts by the US military aren't attracting enlistees. "Even with the instability in the economy and the loss of civilian jobs in many sectors in 2000-2001, interest in the military has not increased," the report declares.¹⁷²

E. Pentagon Calls for Volunteers to Serve on Draft Boards

On September 23rd, 2003, the Pentagon placed a notice on its Web site asking for "men and women in the community who might be willing to serve as members of a local draft board." The Pentagon quickly pulled the announcement from its Website after public outcry.

F. John Kerry Practically Promises to Reinstate Draft

On December 16th, 2003, Senator John Kerry all but promised he would reinstitute the draft if elected president. In a speech at Drake University, in Des Moines, Iowa, on December 16, 2003, Kerry said: "As we internationalize the work in Iraq, we need to add 40,000 troops — the equivalent of two divisions — to the American military in order to meet our responsibilities elsewhere, especially in the urgent global war on terror. In my first 100 days as President, I will move to increase the size of our Armed Forces." This is not an exit strategy. This is a call for a draft.¹⁷³

G. Bill Circulating In Congress Requires Military Service by All Men & Women, 18-25

As of March 2004 the "Universal Military Training and Service Act" is a bill in the Senate and in the House that, if passed, will make military service a requirement for all men, women (including college students) between the age of 18 and 25.¹⁷⁴

H. Selective Service to Implement "Performance Measures" by March, 2005

According to its budget for fiscal year 2004, the Selective Service has received 28 million dollars to implement performance measures, aimed at improving its ability to conduct a draft. An annual report providing the results of the implementation of these performance measures will be submitted by March 31, 2005.¹⁷⁵

I. "Draft Creep" Already Under Way

The draft is actually already under way, albeit in a sneaky way. According to former Army Captain Dr. David Higgins, a process the military calls "[stop-loss,](#)" a.k.a. "[draft creep.](#)" [has been underway for some time now.](#) Under a stop-loss order, troops scheduled to retire are prohibited from doing so until the military allows them to do so. Over the past year, [the Army alone has blocked the possible retirements and departures of more than 40,000 soldiers.](#) Some Guard troops and reservists [complain](#) their release dates have been extended several times and they no longer know when they will be allowed to leave. On their Army paychecks, the expiration date of their military service is now listed sometime after 2030 – the payroll computer's way of saying, "Who knows?"¹⁷⁶

J. Gulf War Syndrome II Will Make the Draft a Necessity

A well-kept secret of the first Gulf War is the amazingly high casualty rate suffered by American veterans. During the war, close to 700,000 individuals served in the Persian Gulf as elements of Operation Desert Shield and Operation Desert Storm. Of these, 148 were killed in battle, 467 were wounded in action, and 145 were killed in accidents, producing a total of 760 casualties, quite a low number given the scale of the operations.

However, by May 2002, the Veterans Administration (VA) reported that an additional 8,306 soldiers had died and 159,705 were injured or ill as a result of service-connected "exposures" suffered during the war. Even more alarmingly, the VA revealed that 206,861 veterans, almost a third of General Schwarzkopf's entire army, had filed claims for medical care, compensation, and pension benefits based on injuries and illnesses caused by combat in 1991. After reviewing the cases, the agency has classified 168,011 applicants as "disabled veterans." In light of these deaths and disabilities, the casualty rate for the first Gulf War is actually a staggering 29.3%, the highest rate for any group of American veterans.¹⁷⁷

Many of these veterans are suffering from the mysterious "Gulf War Syndrome" (GWS). While nobody has been able to definitively determine the cause of GWS, it appears to be the result of exposure to Depleted Uranium, discussed previously. Not surprisingly, some soldiers currently stationed in Iraq are already showing signs of GWS. Should GWS become as

prevalent amongst soldiers of Operation Iraqi Freedom as it is amongst veterans of Desert Shield and Desert Storm, a large-scale draft will become even more of a military necessity.

88. What types of weapons are being developed for these oil wars?

The US has been investing massive sums of money in biological weapons research during the past four years, redirecting up to \$10 billion toward projects related to biological weapons such as anthrax. The Pentagon's budget for chemical and biological defense has doubled; high-security nuclear-weapons labs have begun conducting genetic research on dangerous pathogens; universities are receiving government funding to build high-tech labs equipped to handle deadly infectious organisms; and Fort Detrick, Maryland, once the home of America's secret bioweapons program, is about to break ground on two new high-tech biodefense centers. Officials say the effort is designed to head off what a recent CIA report calls the "darker bioweapons future."¹⁷⁸

Those who have read PNAC's proposal, "Rebuilding America's Defenses," know exactly what these officials mean when they say "darker." On page 60, the proposal states the US will develop "New methods of attack, advanced forms of biological warfare that can target specific genotypes may transform biological warfare from the realm of terror to a politically useful tool."¹⁷⁹ **In other words, they are developing [weapons that target certain ethnic groups](#).** For the record, PNAC has posted a notice on their Website that they find being accused of endorsing genocide to be appalling.¹⁸⁰ While they may not enjoy being accused of it, the plain language of their proposal indicates they feel it would be useful.

Don't feel left out if you happen to be white: [North Korea is rumored to be developing an "ethnic bomb" that targets whites only](#).¹⁸¹

In light of these plans, it is particularly disturbing that shortly after 9-11, many of the world's best microbiologists began mysteriously turning up dead. Between November 2001 and March 2002, 15 world-class microbiologists mysteriously died. Many of them were world leaders in developing weapons-grade biological plagues. Others, the best in figuring out how to stop millions from dying because of biological weapons. Still others, experts in the theories of bioterrorism. Of course, it could all be coincidence, but given that the bizarre manner in which many have died and the fact that each one was at the very top of their respective fields, that is unlikely.¹⁸²

89. Would our leaders actually deploy these horrific weapons? How could they rationalize something so horrible?

Simple, in less than 20 years, the self-regulating market system will have "run out of gas" and vanished. With the market system gone, the ruling elites will fall back on the good old-fashioned means of control: a police state. In the US alone, 200 million guns in private ownership guarantee that this police state will quickly devolve into rebellion and anarchy.

If the anarchy scenario were to reach its natural conclusion, the global elites would be eliminated by the angry masses. Those who managed to escape would die more miserably than the poor since they are unsuited for day-to-day survival because they have lived their lives like queen bees.¹⁸³

Once this scenario becomes inevitable, the elites will simply depopulate most of the planet with a bioweapon. It will be the only logical solution to their problem. It's a first-strike tactic that leaves the infrastructure and other species in place and allows the elites to perpetuate their own genes into the foreseeable future: "War is a male reproductive strategy. All that is needed for the strategy to evolve is that aggressors fight and win more often than they lose."¹⁸⁴

The global genocide will be rationalized as a second chance for humanity — a new Garden of Eden — a new Genesis. The temptation will prove irresistible:

"Strangelove said, 'Offhand, I should say that in addition to the factors of youth, health, sexual fertility, intelligence, and a cross-section of necessary skills, it would be absolutely vital that our top government and military men be included, to foster and impart the required principles of leadership and tradition.'

"The arrow had not missed its mark, and around the table there was an outbreak of sober, nodding heads. Attention was concentrated more than ever on Doctor Strangelove.

"Strangelove went on. 'Naturally they would breed prodigiously, eh? There would be much time and little to do. With the proper breeding techniques, and starting with a ratio of, say, ten women to each man, I should estimate the progeny of the original group of two hundred thousand would emerge a hundred years later as well over a hundred million...'"

Look at the situation from their perspective. What other solution is there? Keep in mind that the people making the decisions about these things are all former energy and defense industry executives. What you and I call a "holocaust," they would call "downsizing."

90. Are we really crazy enough to fight an all-out nuclear war for oil?

Remember that in the 21st century oil production = food production. So the question should be, "How many people, in which nuclear-armed nation, are going to starve before they feel they have nothing to lose by initiating a nuclear war?"

Of course, the nuclear war could very well be accidental. Most people are completely unaware that on January 25, 1995, we came within 10 seconds of witnessing a nuclear holocaust. On that day, military technicians at radar stations in northern Russia detected signals from an American missile that had just been launched off the coast of Norway carrying a US scientific probe. The Russians mistook the satellite for a nuclear weapon. For the first time in history, the Russian computer containing nuclear launch codes was opened.

President Boris Yeltsin, sitting at that computer, being advised on how to launch a nuclear war by his military officers, had only a three-minute interval to make a decision. With only 10 seconds left, the US probe veered off-course. Yeltsin realized that Russia was not under attack, and took his finger off the button.¹⁸⁵

As a result of its subsequent economic collapse, Russia's missile control systems have deteriorated since that day. Its early warning system fails to operate up to 7 hours per day, and its equipment controlling nuclear weapons malfunctions frequently. The US isn't all that much better. As the *New York Times* has reported, part of America's nuclear warning system was rendered incompetent for almost a year during 1999-2000.¹⁸⁶ Tensions will only heighten as oil becomes more scarce, thereby increasing the chance of accidental nuclear annihilation.

91. Is there any chance we will resolve this situation without an all-out world war?

As things stand now, absolutely not. In his book, *The Dark Side of Man*, author Michael P. Ghiglieri explains that wars are fought to address resource shortages:

War analyst Stanislav Andreski concluded that the trigger for most wars is hunger, or even 'a mere drop from the customary standard of living.' Anthropologists Carol and Melvin Ember spent six years studying war in the late 1980s among 186 preindustrial societies. They focused on pre-contact times in hopes of collecting the 'cleanest, least distorted' data. Andreski, it seems, was right. War's most common cause, the Embers found, was fear of deprivation. The victors in the wars they studied almost always took territory, food, and/or other critical resources from their enemies.¹⁸⁷

This also holds true among modern nations. In 1993, political scientists Thomas E Homer-Dixon, Jeffrey H. Boutwell, and George W. Rathjens examined the roots of recent global conflicts and concluded, "There are significant causal links between scarcities of renewable resources and violence. In short, many wars seem to be a mass, communal robbery of another social group's life-support resources."¹⁸⁸

The US military is completely aware of this fact. In 1997, the US Army War College wrote that during the 21st century:

There will be no peace. At any given moment for the rest of our lifetimes, there will be multiple conflicts in mutating forms around the globe. Violent conflict will dominate the headlines, but cultural and economic struggles will be steadier and ultimately more decisive. The de facto role of the US armed forces will be to keep the world safe for our economy and open to our cultural assault. To those ends, we will do a fair amount of killing.¹⁸⁹

92. I think I'm going to be sick.

I know the feeling.

93. Gosh, this sounds like some type of Mad-Max scenario.

According to former Australian Prime Minister Keating, "There is every chance that the American policy will lead us into a Mad-Max world, while the US seeks to cocoon itself behind a screen of national missile defense."¹⁹⁰

Mr. Keating's assertion notwithstanding, such comparisons tend to be problematic as they trivialize the seriousness of our situation. History, not Hollywood, is likely the best guide for what we should expect. Again, any good book on the fall of the Roman Empire should provide you with a reasonable approximation of what the next 5-50 years will be like. Factor in modern-day weaponry, and you can see that we have a real mess on our hands.

Part VIII: Managing the Crash & Coping with the Ramifications

“This is preeminently the time to speak the truth, the whole truth, frankly and boldly. [We should not] shrink from honestly facing conditions in our country today. First of all, let me assert my firm belief that the only thing we have to fear is fear itself -- nameless, unreasoning, unjustified terror which paralyzes needed efforts to convert retreat into advance.”

-Franklin D. Roosevelt (1934)

“Courage is resistance to fear, mastery of fear, not absence of fear”

-[Mark Twain](#) (1835-1910)

The Americans will always do the right thing. After they’ve exhausted all the alternatives.

-[Winston Churchill, Sir](#) (1874-1965)

George Washington had a vision for this country. Was it three days of uninterrupted shopping?

-[Jeff Melvoin](#), Northern Exposure, Bolt from the Blue, (1994)

94. I'm by nature an optimist. This all sounds so pessimistic.

According to Matthew Simmons, the debate between Peak Oil pessimists and Peak Oil optimists is over. It turns out that both were wrong. The situation is worse than even the pessimists had anticipated:

The optimists turned out to be wrong. The jury has rendered the verdict. The optimists have lost. Much field data now proves their total thesis was wrong. The pessimists unfortunately, and ironically, might also be wrong. But most assume that this day of reckoning is still years away. They too might also be too optimistic. My analysis is leaning me more by the month, the worry that peaking is at hand; not years away.

If you think discussing Peak Oil and its likely ramifications are too "pessimistic" ask yourself:

1. Was Winston Churchill being a "pessimist" in 1940 when he told Britain, "I have nothing to offer you but blood, toil, tears, and sweat"?
2. Was Albert Einstein being a "pessimist" in 1939 when he told FDR that Nazi Germany was in the process of developing an atomic bomb?

There is a difference between an "optimist" and a fool. An optimist is somebody who looks at bleak facts and decides to make the best of the situation they can. A fool is somebody who looks at bleak facts and decides to ignore them because they are too upsetting. If you want to ignore the harsh reality of Peak Oil, feel free.

95. It sounds like this is a serious problem, but you know, I could get cancer or be run over by a car or any number of other catastrophes. Why should I worry about this, too?

Contracting a life-threatening disease, being run over by a car, or experiencing some similar catastrophe is a possibility that may affect you someday. Oil depletion is a certainty that is already affecting you, and is likely to affect you much, much more in the future. Dismissing it now will ensure it hits you harder in the future.

96. I have work, school, bills, kids, traffic, etc., to deal with. How am I supposed to prepare for the Oil Crash when I'm barely keeping up with life as is?

Join the club. You're not the only person who has day-to-day problems. If Peak Oil is too much for you to worry about, feel free to ignore the facts and stick your head in the sand.

Remember, however, that when you stick your head in the sand, you leave your ass exposed for the world to kick.

97. Should I be getting a gun and hiding in the woods?

If a "hole-up-in-the-woods-with-guns" model of preparation appeals to you, I encourage you to read as much as possible about other civilizations that have crashed and burned. While the survivalist model works in Hollywood, it often fails in reality. When our society collapses, the rural areas may well go first. In that case, little enclaves of survivalists sitting on stockpiles of food, weapons, and gold will be too tempting a target for the bandit cultures that evolve in post-collapse rural areas.

Speaking of bandit cultures, you can be assured that your in-laws will come looking for food and supplies if you have them stockpiled.

As stated previously, the end of the oil age is a life-and-death game. I think it unwise to base your life plan on a macho Hollywood fantasy. At the same time, I can't blame you if the first thing you do after reading this book is go out and get yourself a gun.

98. Do you think people will wake up in time for us to avert, or at least soften the crash?

I hope so, but I'm not betting on it. According to author George Monbiot:

The only rational response to both the impending end of the oil age and the menace of global warming is to redesign our cities, our farming and our lives. But this cannot happen without massive political pressure, and our problem is that no one ever rioted for austerity.¹⁹¹

99. What are some steps we can take as a society to deal with Peak Oil? What are some public policies that, if implemented, will help us manage this crash instead of just running into it?

Peak Oil is going to happen. People are going to die. We cannot stop it. But we may be able to minimize the amount of suffering while maximizing the chances of building a successful post-oil civilization if we implement appropriate public policies such as:

A. Civilized Measures to Support Population Reduction

The primary cause of the looming energy crisis is the fact that the world has more people than can be supported in a steady-state-renewable-energy environment. The obvious solution is to reduce the world's population in the most civilized way possible. The importance of this cannot be understated.

1. Inform people of the true nature and scope of the crisis. Many will voluntarily refrain from having children if they are aware of our situation.
2. Find practical, humane, and just solutions to immigration. In the US, the overwhelming majority of our population growth is projected to come from immigration. While immigration may be desirable from economic or humanitarian perspectives, it will be disastrous from an ecological standpoint.

B. Measures to Promote Conservation

Conservation may not be popular, but without it, we have no hope of effectively coping with the coming oil shortages. Conservation measures should include measures to:

1. Eliminate tax reductions for SUVs
2. Pass legislation mandating higher fuel-efficiency standards.
3. Finance programs to promote the use of carpools, public transportation and bicycle-riding.
4. Reduce subsidies for agribusiness while simultaneously supporting local, community-based agriculture programs.
5. Support the troops by informing people that our troops are dying primarily to support our oil-driven, consumer lifestyle. Slogans such as "Save our troops by riding your bikes" or "Ride alone and you ride with Osama" could infuse the conservation effort with a healthy dose of patriotism.

C. Measures to Support Alternative & Renewable Energy

If we do not take immediate, massive and sustained action to switch to renewable energy, then civilization faces the sharpest and perhaps most violent dislocation in recent history.

There are a number of ways to do this:

1. Finance a "Manhattan"- or "Apollo"-style project to accelerate the development of renewable energy. The solutions are modest, but they're all we've got, so we need to get them scaled up as much as possible as soon as possible.
2. Give tax breaks to homeowners who install solar panels, windmills, or similar systems.
3. Finance public transportation to a far greater degree than it currently is financed.
4. Support education institutions that have majors such as "Sustainable Economics."

D. An Overhaul of the Debt-Based Monetary System

Any economic system that requires perpetual growth will eventually collapse on itself, regardless of its energy source(s). Freeing ourselves from the clutches of this system will likely prove far more challenging than freeing ourselves from dependence on fossil fuels. We mustn't let the enormity of this challenge dissuade us from facing it. Without changing the way money works, all the renewable energy programs in the world won't do us any good.

Some communities have experimented with "local currency," but the legal status of these endeavors is unclear. Catherine Austin Fitts, an incredibly brave woman, has developed a software program for creating local currency, a project for which she is now being prosecuted in federal court. Her Website, solari.com, is an excellent place to begin learning about how money works.

I wish I could offer you more concrete, step-by-step advice in regards to overhauling the monetary system, but it is an endeavor whose magnitude I am just beginning to grasp myself.

100. Do you think the government is going to make moves to implement these measures?

It's highly unlikely, as the industries that control our government would be hurt by these measures.

101. So we're going to have to save ourselves?

Exactly, any solutions will likely be local. It is imperative that you understand this.

102. What are some steps that I can personally take in the next few days to begin addressing this situation?

The following list is by no means exhaustive. These are just some simple steps you can begin taking immediately.

1. Educate yourself about Peak Oil and its ramifications.
2. Educate others. If you're not sure how to go about doing so, consider lending them this book or emailing them a link to [lifeaftertheoilcrash](http://lifeaftertheoilcrash.net).
3. Seek out like-minded folks. There are Peak Oil groups forming all over the country. I have a list of these groups available on my site, <http://www.lifeaftertheoilcrash.net/groups>
4. Perform Google searches for Peak Oil whenever you get the chance. As more people search for "Peak Oil," the folks at Google will take notice. This may result in increased mainstream media coverage.
5. Adopt a vegetarian/vegan diet, or at least reduce your meat consumption as much as you can. Meat is an extraordinarily energy-intensive form of food.
6. Start using your bicycle or public transportation instead of your car, whenever possible. If your community has a car cooperative, join it. If your community doesn't have a car cooperative, start one.
7. Limit your purchase of consumer items as much as you can.
8. Reduce your use of electricity as much as possible. Consider investing in items such as solar-powered lanterns, battery chargers, radios, hot water heaters, laptop chargers, bicycle-powered generators, etc.
9. Consider converting your vehicle to biodiesel. This will provide you with more flexibility as gas prices become prohibitively expensive.
10. Consider taking an organic farming class or joining a local food cooperative. You need to start learning about soil and non-oil-powered agriculture.
11. Begin learning basic emergency medical procedures.

12. Investigate alternative forms of health care such as bioenergetic healing, self-hypnosis, etc. Pharmaceutical-based health care will soon become too expensive for anybody but the super-wealthy.
13. Reduce your debt load as much as possible.
14. Begin thinking how you are going to survive through blackouts, food/water shortages and economic breakdowns.
15. Begin accepting death. Even if you survive, you will witness an unprecedented amount of death and suffering during the later stages of the oil crash. You may as well begin preparing now.
16. Develop a sense of humor. As you can tell, I have not let the fact I spend my days researching and writing about the “end of the world” dampen my sense of humor. The future is not going to be pleasant. A sense of humor will make it much easier to deal with.

103. Would it be a good time to look into buying a solar-powered home, if I have the financial resource to do so?

George W. Bush, Dick Cheney, and Al Gore sure seem to think so. Each have state-of-the-art solar-powered, "off-the-grid" homes. Bush's has been described as an "environmentalist's dream home." Cheney's house is equipped with state-of-the-art energy-conservation devices installed by Al Gore. Think they know something we don't?

104. How am I supposed to help stop the military-industrial complex that seems to have taken over the world?

Are you ready to be a truly revolutionary American and put down your wallet? The military-industrial complex has taken over because we've given it our money, mostly for useless items that we don't need. Limit your consumer purchasing as much as you can and you will do more to slow down, and perhaps stop, the military-industrial complex than you will ever do by attending a peace march. Marching for peace does nothing to address our situation. Driving to the march and stopping at Starbucks on the way is actually making the situation worse. All marching for peace does is waste precious time and resources, while giving the “powers that be” the opportunity to deny we are creeping towards fascism.

Of paramount importance: Do not let anybody you care about enlist in the military or allow themselves to be drafted! Check the Website objector.org for more information.

If you are of draft age, begin working on your conscientious objector status RIGHT NOW. The loopholes of the Vietnam era that allowed people to escape to Canada or get student deferments have been closed.

105. How am I supposed to maintain a positive mental attitude now that I know industrial civilization is about to collapse? How should I prepare emotionally?

As an eternal optimist, I have decided to look at the future as a giant episode of “Survivor.” All joking aside, when implications of Peak Oil hit me, I was pretty scared. I felt as though my whole future had just been drop-kicked in one fell swoop. It took me a couple of days for the initial feeling of semi-panic to wear off. The only way we are going to effectively cope with the end of the oil age is to effectively cope with our emotions.

A. Dealing with Fear

According to best-selling author and motivational speaker Tony Robbins, fear carries a message:

Fear is simply the anticipation that something that's going to happen soon needs to be prepared for. In the words of the Boy Scout motto, "Be prepared." We need either to prepare to cope with the situation, or to do something to change it. The tragedy is that most people either try to deny their fear, or they wallow in it. Neither of these approaches is respecting the message that fear is trying to deliver, so it will continue to pursue you as it tries to get its message across. You don't want to surrender to fear and amplify it by starting to think of the worst that could happen, nor do you want to pretend it's not there.¹⁹²

The solution to fear, Robbins writes, is:

Review what you were feeling fearful about and evaluate what you must do to prepare yourself mentally. Figure out what actions you need to take to deal with the situation in the best possible way. Sometimes we've done all the preparation we could for something; there's nothing else we can do — but we still sit around in fear. This is the point when you must use the antidote to fear; you must make a decision to have faith, knowing you've done all you can to prepare for whatever you're fearing.¹⁹³

As Michael Ruppert — who has had several attempts on his life as a result of the information he has uncovered — states on his Website:

Fear happens when we *really* don't understand something and when we project, either consciously or subconsciously, into the future. We become fearful of the unknown and of the things that we don't want to face. When we don't face problems now, we guarantee that they will be worse, later. Carl Jung wrote, "The foundation of all mental illness is the unwillingness to experience legitimate suffering." The best way to stop living in fear is to educate oneself... *arm the mind*, so to speak. The most spiritual way to deal with fear is to approach it rather than run from it. It is from this commitment that true progress is made and that solutions unseen become solutions made real.¹⁹⁴

By educating yourself about Peak Oil and its ramifications, you are already taking steps to deal with fear. Personally, I have come to believe that our external reality is essentially a mirror of our internal reality. If you walk around vibrating fear, you will attract external circumstances that exacerbate your fear. For this reason, it is of paramount importance that we strive for states of consciousness more productive than fear. In regards to practical methods for dealing with fear, that is very much an individual endeavor. You are going to have find things that work for you, but keep in mind that action is the antidote to anxiety.

B. Consider the Collapse of Oil-Based Civilization an Opportunity Rather than a Tragedy

Most of us in consumer-based countries like the US are actually very nice people. In our hearts, we really do believe in ideals such as equality, brotherhood, and justice. We would never abuse, mistreat, or kill somebody just to get something of theirs. However, to support our oil-based, consumer lifestyle, our government goes out and does these things for us. If the average American could feel the suffering that went into producing every piece of plastic in their home, every gallon of oil in their gas tank, and every piece of food on their dinner table, they would likely be sick to their stomach and would be willing to do whatever it takes to change things.

Peak Oil will force us to change things. Peak Oil does mean that the end of the world as we know it is at our doorstep. It also means that we have a chance to create a new world in which humanity lives in harmony with itself and the Earth. Such a lifestyle is no longer simply "the right thing to do." It is now a necessity if we wish to survive as a species.

In *The Truth about the War and Oil: The Coming Global Energy Crisis*, author Stephen Hamilton Bergin takes an optimistic line that a better world will rise out the ashes. According to Bergin, some kind of crisis is almost to be welcomed to dispose of worthless government and kleptocratic management, leading to some form of a new better life.¹⁹⁵

In this regard, an analysis of the collapse of the chattel slavery system following the Civil War is informative. When the system collapsed, many former slaves experienced considerable anxiety. The plantation system was all that they had known. Many wondered

nervously: What was going to replace the plantation system? How would they get their food? For whom would they work? Did they have the skills to survive in this new way of life? What would happen to their families?

You may be asking yourself these same questions in regard to what life after the oil crash will be like. The fact that we find ourselves in a situation analogous to that of slaves on the verge of freedom is not all that surprising. While we are not bonded by chains of iron, most of us are bonded by the chains of a debt-based, oil-fueled civilization. A civilization where, for instance, people my age are getting their arms, legs, and heads blown off so that I can have the privilege of filling up my car's gas tank in order to make the two-hour drive to a job that I don't even like, so I can pay off the credit card I used to buy the car. The collapse of this civilization may finally provide us a chance at freeing ourselves from such insanity.

Take a moment and think about anybody you admire from history. It could be the patriots of the 1700s, the anti-slavery abolitionists of the 1800s, the anti-Nazi resistance of the 1940s. Usually, the people we admire are persons who faced great challenges and met them head-on. Building a post-oil civilization will likely be the greatest challenge in the history of the world. This also makes it the greatest opportunity in the history of the world. Will the years to come be difficult? Absolutely. But they may also be some of the most rewarding, if we choose to make them so. It is up to us. I want to leave you with a challenge that Australian author Dr. Helen Caldicott has issued to us Americans:

I would therefore like to address the men and women of America: You belong to the most powerful nation on Earth, an immensely wealthy country, populated by people who want to live their lives with compassion and integrity. You have a great and noble task ahead of you. Each of you can be as powerful as the most powerful person who ever lived. If you or your child were threatened with a lethal disease, you would do everything in your power to save that life. This is the analogy that you must now apply to the planet and in particular to your country. America must rise to its full moral and spiritual height to reach its intended destiny — the nation that saved the world.¹⁹⁶

106. As things begin to collapse, do you think society will finally make good on Shakespeare's admonition to "kill all the lawyers."

Oh, sh*t.

107. In all honesty, do you really think we have a chance of surviving this?

No. Take a honest look at what solving this problem requires us to do in the next 10 years and ask yourself, "Is this even remotely possible?"

1. Reduce our consumption of oil by 75-90%. This would buy us about 25-35 extra years in which to transition to renewable sources, the most promising of which are wind and solar.
2. Upscale our usage of wind and solar power by a magnitude of 1,000s. (We currently get 40% of our energy from oil. We get less than .014% from wind and solar combined) To upscale our usage of wind and solar this much is impossible if we try to reduce consumption of oil by 75-90%, as the process of implementing wind and solar power requires a tremendous amount of oil. The same problem exists if we go the nuclear route.
3. Reduce our population in a way that doesn't involve racist or fascist style population controls.
4. Address the natural gas crisis. (Explaining this would take an entire book in of itself. See *High Noon for Natural Gas* by Julian Darley)
5. Address the fact that by 2030, coal will take more energy to extract than it carries.
6. Transition from a market/growth based economy to a steady state one.
7. Do all of this in the midst of global resource wars, massive resistance on the part of the government & industry and staggering ignorance on the part of the general public.

It's time to face facts: We are screwed.

I have come to the conclusion that Matt Simmons was more correct than he may have realized when he stated, "The only solution is to pray." I'm not kidding or exaggerating here. The only way the bulk of us are going to survive the oil crash is with a miracle or divine intervention. To this end, I have put together a non-denominational, "Oil Crash Prayer and Visualization Team." The team is inclusive of all religions and spiritual approaches. You can get more information about it at <http://www.lifeaftertheoilcrash.net>

108. Are you saying we should just abandon our efforts at saving ourselves in hope that God intervenes?

Absolutely not. I believe that whatever "God" or "Higher Consciousness" you believe in is more likely to answer our prayers if she sees us doing everything in our power to save

ourselves. It's like the Russian proverb about the man in a sinking boat. If he wants to live, he better start praying. But this doesn't mean he should stop paddling.

We need to make our absolute best efforts at implementing renewable energy and reducing our consumption levels, but were not going to succeed without some form of spiritual intervention.

109. Why do you think this is happening? What do you think the “big picture” is?

Some evolutionary biologists believe that whenever an ecosystem has an excess of a particular resource, a species will arise to make use of that resource. Over time, this new species will exhaust the resource they were adapted to exhaust. This brings the system back into balance. At that point, the species has fulfilled its evolutionary purpose. It will then go extinct. According to biologist David Price:

The short tenure of the human species marks a turning point in the history of life on earth. Before the appearance of Homo sapiens, energy was being sequestered more rapidly than it was being dissipated. Then human beings evolved, with the capacity to dissipate much of the energy that had been sequestered, partially redressing the planet's energy balance. The evolution of a species like Homo sapiens may be an integral part of the life process, anywhere in the universe it happens to occur. If organic energy is sequestered in substantial reserves, as geological processes are bound to do, then the appearance of a species that can release it is all but assured. Such a species, evolved in the service of entropy, quickly returns its planet to a lower energy level. In an evolutionary instant, it explodes and is gone.¹⁹⁷

My take on Mr. Price's theory is this: Many eons ago, God was spending a leisurely morning in her office when one of the angels, perhaps Michael or Gabriel, walked in. The angel said to God:

God, we got a problem down on earth. You see, all the energy from the sun has been accumulating inside the earth as this black goeey stuff we decided to call oil. This wasn't a problem for the first few billion years, but now it looks like earth has more stored energy than it can handle. Me and the other angels tried to fix the problem, but so far we haven't been able to figure anything out.

God sat in her chair and thought for a moment. Then, in what amounted to the ultimate “Eureka” moment, God jumped out of her seat and exclaimed, “I know what I'll do! I'll create a species that's dumb enough to use the stuff!”

A few billion years later, we're pretty close to accomplishing our original purpose. As a result, we stand on the brink of extinction. Hopefully, if we show God we are capable of doing something other than just consuming oil, she'll find a new purpose for us.

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