

Peak Oil

&

Survival Strategies

"Global Oil Production is Peaking and Civilization as we know it today is in big trouble "

It is imminent & guaranteed by the natural laws that govern our physical world, and nothing in science, technology, or engineering can prevent it. The implications of Peak Oil are far reaching that only few understand, with little thinking devoted to the crisis certain to follow.

1. [Peak Oil](#)
2. [The Saudi Arabia Case](#)
3. [Peak Oil Imminent](#)
4. [Impending Crisis](#)
5. [Economic Growth](#)
6. [Fallacy of Alternatives](#)
7. [Peak Oil & The 'War on Terror'](#)

Peak Oil

The highlights

The world is not running out of oil. What the world is shortly running out of is its ability to produce high-quality cheap and economically extractable oil on demand. After more than fifty years of research and analysis on the subject by the most widely respected & rational [scientists](#), it is now clear that the rate at which world oil producers can extract oil is reaching the maximum level possible. This is what is meant by Peak Oil. With great effort and expenditure, the current level of oil production can possibly be maintained for a few more years, but beyond that oil production must begin an irreversible decline and civilization is in trouble.

It is now widely acknowledged by the world's leading petroleum [geologists](#) that more than 95 percent of all recoverable oil has now been found. We therefore know, within a reasonable degree of certainty, the total amount of oil available to us. Any oil well has roughly the same life cycle where the production rate peaks before it goes into terminal decline. This happens when about half of the oil has been recovered from the well. We have consumed approximately half of the world's total reserve of about 2.5 trillion barrels of conventional oil in the ground when we started drilling the first well at a current rate of over 30 billion a year, meaning the world is nearing its production plateau.

Worldwide discovery of oil peaked in 1964 and has followed a steady decline since. According to industry consultants IHS Energy, 90% of all known reserves are now in production, suggesting that few major discoveries remain to be made. There have been no significant discoveries of

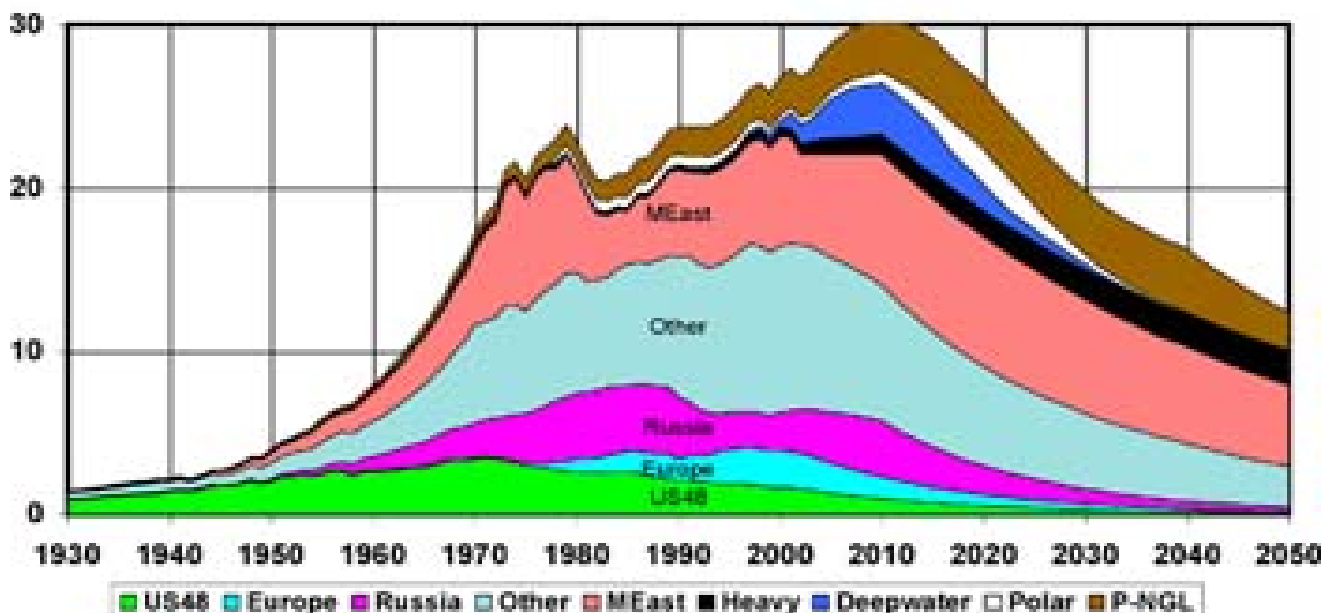
new oil since 2002. In 2001 there were 8 large scale discoveries, and in 2002 there were 3 such discoveries. In 2003 there were no large scale discoveries of oil. Given geologists' sophisticated understanding of the characteristics that would indicate a major oil find, it is highly unlikely that any area large enough to be significant has eluded attention and no amount or kind of technology will alter that. Since 1981 we have consumed oil faster than we have found it, and the gap continues to widen. Developing an area such as the Arctic National Wildlife Refuge in Alaska has a ten year lead time and would ultimately produce well under 1% of what the world currently consumes.

The grim reality of life:

The global oil decline is a certainty, guaranteed by the natural laws that govern our physical world, and nothing in science, technology, or engineering can prevent it. The consumption of a finite resource is simply a finite venture and the faster we use the quicker it peaks.

Oil is now being consumed four times faster than it is being discovered, and the situation is becoming critical

**Regular Oil & Natural Gas Liquids
2003 Base Case Scenario**



Global oil production is rapidly approaching its peak, even if natural gas liquids and expensive, destructive, risky deepwater and polar oil are included.

The Saudi Arabia Case

With more than fifty oil-producing countries now in decline, focus on the oil-rich Middle East has sharpened dramatically. Countries of the Middle East have traditionally been able to relieve tight oil markets by increasing production, but, as the this region nears its own oil peak, any relief it can provide is limited and temporary.

Saudi Arabia is a major oil producer with 73% of all incremental world demand being met by this country. The worrying fact is that 90% of their production comes from only 5 mega fields (one is the Ghawar field which is the biggest ever discovered), and are all at risk of unplanned production collapse. In 2004 there were warning signs of production falling into depletion. For years, Aramco, the Saudi national company, have injected enormous amounts of seawater (7 million barrels daily) into their biggest field to boost production. These methods have only temporary effects, and lead to accelerated rates of depletion in the future.

Matt [Simmons](#), long time energy analyst who studied energy for 34 years, in his book "Twilight in the Desert" effectively confronts the complacent belief that there are ample oil reserves in Saudi Arabia and has created a compelling case that Saudi Arabia production will soon reach a peak, after which its production will decline and the world will be confronted with a catastrophic oil shortage. The factual basis of the book is over 200 technical papers published over the last 20 years which individually detail problems with particular wells or particular fields, but which collectively demonstrate that the entire Saudi oil system is "old and fraying" with reserves deliberately vastly overestimated.

Geologist Dr Colin Campbell in a 1998 article in *Scientific American* also details numerous discrepancies about estimates in Middle East reserves. The extent of reserves reported remained amazingly constant from year to year and then jumped dramatically. A similar unexplainable jump occurred in other countries in the Middle East, sometimes even in the total absence of exploration, strongly suggesting that OPEC's reserves are overstated.

Peak Oil Imminent

While many scientists have not reached agreement about the exact date that world oil production will peak, the degree of consensus among them is quite remarkable. Most agree that the Peak will happen sometime before **2010**, suggesting that the world may be facing shortfalls much sooner than expected.

Recently, [CNN](#) and Britain's Independent also point out the reality of Peak Oil, acknowledging that world oil and gas reserves are as much as 80% less than predicted.

A few years ago, political leaders in the United Kingdom made clear to the public it was "not a question of if but when terrorists where going to strike on British soil", yet I am sure the terrorist bombings in London in July 2005 came as a surprise to most of us.

"The longer an event fails to happen, the easier it is to assume it is not (while odds of occurrence rise)"

Based on Simmon's analysis, sudden and sharp oil production declines could happen at any time. Even under the most optimistic scenario, Saudi Arabia may be able to maintain current rates of production for several years, but will not be able to increase production enough to meet the expected increase in world demand. There is no likely scenario that some new frontier can replace Middle East oil declines.

Senior Saudi energy officials have privately warned US and European counterparts that Opec would have an "extremely difficult time" meeting demand. Saudi Arabia calculates there is a 4.5m b/d gap between what the world needs and what the kingdom can provide. Repeated promises for increases in production have consistently failed to materialize.

If world oil production is about to peak or is already beyond its peak supplies will soon go into irreversible decline of initially 2% or 3% annually, while world demand is growing rapidly with 2% or 3% a year. This will result in a 4% short-come just a year after the peak and will rise to a 15% - 20% gap in 5 years.

The fossil fueled industrial age could have given everyone high quality, high durability goods, and permanently lifted worldwide living standards. What we did was produce at the lowest cost, lowest quality possible, a "disposable" product.

Insanity = "doing the same thing over and over again and expecting a different result".

More and more commentators like Richard Deffeyes, Matt Simmons and T. Boone Pickens have targeted **2005** as the year of Peak Oil. Richard Deffeyes has backed his prediction with analysis based on R/P projections. Matt Simmons no doubt has factored an imminent peak in Saudi production into his calculations.

Exxon Mobil Corporation, one of the world's largest publicly owned petroleum companies, is the most forthright of the major oil companies having had the courage and honesty to quietly publish the declining discovery trend, based on sound industry data with reserve revisions properly backdated. Furthermore, the company is running page-size advertisements in European papers stressing the immense challenges to be faced in meeting future energy demand, hinting that the challenges might not be met despite its considerable expertise. Their report, "*The Outlook for Energy: A 2030 View*", forecasts a peak in oil production in just five years. Chevron recently joined their campaign publishing an advertisement in national newspapers stating that the 'Era of Easy Oil is Over' (see [here](#) to view full ad).

The arrival of Peak Oil may be slightly delayed if worldwide demand for oil would fall. A global recession can hit demand for oil based products, independent of oil prices and is likely to be triggered by the global real estate bubble. If that bubble would burst, the loss of paper wealth would have a devastating effect on consumer spending and GDP. This would result in spare capacity building up

again. Furthermore, the high price of crude itself can dampen demand. This problem is particularly noticeable in governments offering energy subsidies. This decreased consumption is not so obvious in cash-rich nations such as the USA or the EU, but it is there in a smaller measure. Nevertheless, this dampening adjustment would only be short lived and simply postpone the inevitable, only ensuring a steeper and more uncontrollable decline, but I acknowledge the possibility.

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. (ASPO, 2002)

Impending Crisis

We have taken our lifestyles and the cheap & abundant supply of oil all for granted. At the petrol station, we expect the pump will run to supply us with fuel to drive our SUV's to run around town, work and school. But when oil becomes more scarce, it is very likely that these pumps will be the first to run dry, because they are at the end of the supply chain. But implications will be much worse than that.

It is not a question if but when the world economy will be confronted with a major shock that will stunt economic growth, increase inflation, and potentially destabilize the Middle East. It will make the Great Second Depression look like a dress rehearsal.

It is a coming crisis that few understand but with far reaching implications. Nations will fight over the remaining oil. There will be power black outs, war and famine. Without hydrocarbons, this planet can only produce enough food to sustain a population of 2.5 billion. The current world population is in excess of 6 billion and growing ([UN](#) projection: 7.3 billion by 2050). In the US, without industrial agriculture, it is estimated that only 2/3's of the current population can be fed (D. Preiffer). Fossil fuels effectively temporarily raised the carrying capacity of the earth.

Economic Growth

The main worry is not the present levels of resource use and ecological impact. It is the levels we will rise to given the obsession with constantly increasing production and consumption. The supreme goal in all countries is to raise incomes, "living standards" and the GDP as much as possible, constantly and without any notion of a limit.

If all the world's people would have the same "living standards" as people in the rich world by 2070, given 4% growth until then, the total volume of world economic output would be 120 times as great as it is now. Even if we assume only 3% growth in rich countries and the Third World rising only to the present "living standards" of the rich countries, the multiple is 14.

Economists' view is that the market will solve all of our problems. They assure us that pollution, resource depletion, the collapse of ecosystems and the failure of agriculture will produce economic stimulus which will spur the discovery of new resources and the development of new technologies. The market would maintain equilibrium no matter how much people and the environment have to suffer as

a consequence. But we must avoid any movement towards regulations which might restrict economic growth. They have no clue how economic growth can be maintained with a shrinking energy base.

Globalization is the endgame of capitalism, pushing for open access to resources throughout the globe while driving down labour costs to provide cheap products and maximum profits. All we have to do to share in the benefits of this supposedly generous system is to consume, consume, and consume more.

The present levels of production and consumption are grossly unsustainable. The determination to have a continual increase in income and economic output is simply unattainable. Yet it is impossible to get people or governments to even address this issue.

The fallacy of Alternatives

The public, business leaders and politicians are all under the false assumption that oil depletion is a straightforward engineering problem of exactly the kind that technology and human ingenuity have so successfully solved before. Technology itself has become a kind of supernatural force, although in reality it is just the hardware and programming for running that fuel, and governed by the basic laws of [physics](#) and thermodynamics. Much of our existing technology simply won't work without an abundant underlying fossil fuel base and we may therefore lack the tools to move forward.

With this energy base dwindling, there is simply not enough time to replace a fluid so cheap, abundant and versatile. It is rich in energy, easy to use, store, and transport. Nothing has the bang for the buck of oil, and nothing can replace it in time - either separately or in combination. Wind, waves and other renewables are all pretty marginal and also take a lot of energy to construct and require a petroleum platform to work off.

Natural gas is a diminishing resource as well and cannot satisfy the growing demand for energy. US Gas supplies were so low in 2003 after a harsh winter that to preserve life and property supplies were close to being cut off to manufacturers, electric plants and lastly homes.

Ethanol has a net energy value of zero (not accounting for soil and water damage and other costs due to unsustainable agricultural practices) - it is subsidized as a boon to agribusiness and would have a negligible effect (Prindle, ACEEE).

Solar energy produces marginal net energy, but are still decades away at best from being a viable substitute given the recent rate of progress in efficiency and costs (averaging about five percent a year) and is nowhere ready to meet the world's energy needs. More importantly, solar photovoltaic cells (PVC) are built from hydrocarbon feed stocks and therefore require excess resources. It is estimated that a global solar energy system would take a century to build and would consume a major portion of world iron production (*Foreign Affairs*, Rhodes).

The widespread belief that hydrogen is going to save the day is a good example of how delusional people have become. Hydrogen fuel cells are not an energy source at all, but are more properly termed a form of energy storage. Free hydrogen does not exist on this planet. It requires more energy to break a hydrogen bond than will ever be garnered from that free hydrogen. The current source of hydrogen is natural gas - that is, a hydrocarbon. In the envisioned system of solar PVC & hydrogen fuel cells, every major component of the system, from the PVC to the fuel cells themselves will require hydrocarbon energy and feedstocks. The oil age will never be replaced by a hydrogen fuel-cell economy.

Coal is abundant, but its net energy profile is poor compared to oil, and will continue to diminish fast. Coal production is extremely harmful to the environment. One large coal burning electric plant releases enough radioactive material in a year to build two atomic bombs, apart from emitting more greenhouse gases than any other fuels. Coal is implicated in mercury pollution that causes 60.000 cases of brain damage in newborn children every year in the USA. Resorting to coal would be a very big step backwards and what we may face then may be more like the Dim Ages. More importantly, coal is distributed very unevenly with the top three countries (China, USA, USSR) possessing almost 70% of total. Much of the current oil and gas supply is in low-population countries, such as Saudi Arabia, that cannot possibly use all of the production for themselves. They are hence quite willing, indeed eager, to sell it to other countries. When oil and gas are gone, and only coal remains, and the few (large-population) countries that possess it need all of it for their own populations, it will be interesting to see how much is offered for sale to other countries

Obtaining usable oil from tar sands requires huge amounts of energy, as it has to be mined and washed with super hot water. From an energy balance, it takes the equivalence of two barrels of oil to produce three, which is still positive but poor in terms of energy economics. In the early days of conventional oil, this ratio used to be one to twenty.

Nuclear power plants are simply too expensive and take ten years to build, relying on a fossil fuel platform for all stages of construction, maintenance, and extracting & processing nuclear fuels. Additionally, uranium is also a rare and finite source with its own production peak.

Fossil fuels allowed us to operate highly complex systems at gigantic scales. Renewables are simply incompatible in this context and the new fuels and technologies required would simply take a lot more time to develop than available and require access to abundant supplies of cheap fossil fuels, putting the industrial adventure out of business.

Alternative energies will never replace fossil fuels at the scale, rate and manner at which the world currently consumes them, and humankind's ingenuity will simply not overcome the facts of geology & physics.

Peak Oil & the 'War on Terror'

If we had to actually reform the way that people live, or let go of some of it, the losses would be politically untenable. No politician, whether it is the gallant John Kerry or George W. Bush, will go near the issue at the consumer level. They know that if the suburban-sprawl economy is challenged there isn't a whole lot left behind it.

“America is still in denial about the energy problem and few politicians are prepared to accept painful solutions” (J. Cooper, congressman Tennessee, July 2005).

So unwilling to address the demand side of the problem, they have desperately attempted to protect and stabilize the supply side.

No sooner had President Bush and Vice-President Cheney settled into their official residences in January 2001, than they set out to rewrite their nation's energy policy. A report was produced warning

that the US faced 'the most serious energy shortage since the oil embargoes of the 1970's'. America had become dangerously dependent on imports and if overall energy demand continued to outstrip supply, it warned, the imbalance would "inevitably undermine our economy, our standard of living and our national security". (FT, Jul '05).

"Let's look at it simply. The most important difference between North Korea and Iraq is that economically, we just had no choice in Iraq. The country swims on a sea of oil."

"...for reasons that have a lot to do with the US government bureaucracy, we settled on the one issue that everyone could agree on: weapons of mass destruction."

(Paul Wolfowitz, US deputy Defence Secretary, 2003)

Michael Rupert, investigative reporter, also concludes that the so-called "war on terrorism" is nothing but a war to control the last remaining oil reserves of the planet. It is not a coincidence that Iraq, Kuwait and Iran with the second (114 billion), third (98 billion) and fourth (94 billion) largest oil reserves in the world, have been so important to the United States (see [BP Statistical Review 2005](#))

The Iraq war is not hard to understand. It wasn't an attempt to steal Iraq's oil. If that was the case, it would have been an uneconomic venture spending hundreds of billions of dollars occupying the place, not to mention the lives lost. It was not a matter of stealing the oil; it simply was a desperate attempt to retain access to it. It was an attempt to stabilize the region of the world that holds two-thirds of the remaining oil, namely, the Middle East.

Iran has been the latest target of the Bush administration, warning of possible military action, while the UN nuclear watchdog is preparing to publish evidence that Iran is not engaged in a nuclear weapons programme.

"An excess of anything in life promotes wastage until its decline becomes evident and irreversible"

(A.Kuhlman)

Peak Oil

&

Survival Strategies

[PEAK OIL](#)

[THE
CRISIS](#)

[SURVIVAL STEPS](#)

[BOOKS & DVD's](#)

[AUTHOR](#)

[NEWS](#)

[LINKS](#)

There are, absent fossil fuels, sustainable means to obtain clean water, nutritional food, appropriate clothing and shelter, but not in sufficient quantities to sustain the present population, let alone provide any excess.

Impending Crisis

The implications of Peak Oil are far reaching that only few people understand. The foreshocks of the impending oil production peak are already impacting our economies, our environment, and geopolitics.

Nobody knows exactly what will happen. We have never seen a situation like this where the excesses have been so extreme. It is difficult to see how it will resolve itself. What is terrifying is that when you get excesses this bad you get results you can't expect.

A doomsday scenario where thousands of desperate cold and hungry people will come walking out of the cities and suburbs, walking down highways with their belongings on their back as the vast fossil fuel dependent logistic system supplying these cities have collapsed is not far fetched. It is important to have such a scenario in the back of our minds and have a rational understanding of the imminent crises developing in the world as a result of Peak Oil, to enable us to make the best possible pre-emptive plans in order to ease the strain on yourself and the people you love.

Highlights of what to expect:

Oil extraction from wells will be physically unable to meet global demand

Alternative energy sources will fall far short of compensating for expected shortages of oil. There is simply not enough time to convert over to them and all require an underlying fossil fuel platform.

Massive disruptions to transportation and the economy are expected from about 2005-2007 onward as the global decline of petroleum begins.

Gradual, permanent cut-off of fuel for transport and for industrial machinery. Global trade will greatly

decline.

Massive food shortages; agrobusinesses would not be able to operate without the supporting fossil fuels

Resource scarcity; most products depend on fossil fuels

Reduction of virtually all business and government activity and very serious unemployment

Social unrest

Resource wars

Dr. Smalley, in the February 2005, issue of Discover magazine gave the following prognosis as a result of the energy shortage brought on by peak oil and the fact that the world cannot produce oil as fast as the world's growing economies demand it: "There will be inflation as billions of people compete for insufficient resources. There will be famine. There will be terrorism and war."

Economic Collapse

Oil is the fuel that enabled the growth of modern civilization, and all industrialized countries now rely on it to an extraordinary extent. Oil provides 40 percent of all primary energy, and 90 percent of our transportation energy. It is furthermore critical to industrial agriculture, the chemical and pharmaceutical industries, much of the clothing industry, and a vast array of others. The physical and chemical versatility of oil, combined with its high energy density, are such that no other known energy source can serve as a full or even adequate substitute. In short, oil is the lifeblood of the industrial world.

The chief economist of Morgan Stanley recently predicted that we have a 90 percent chance of facing 'economic Armageddon'.

Rising Oil Prices

The inexorable tightening of supply is destabilizing oil markets, which now exhibit extreme price responses to the smallest of disturbances. Higher oil prices are hurting economies by increasing the cost of consumer goods while simultaneously reducing disposable income. Sharply rising oil prices have always preceded economic recession and plummeting stocks.

Analysts predict that market-based panic will drive prices skyward. And as supplies can no longer slack daily world demand, the market will become paralysed at prices too high for the wheels of economy and even daily living in 'advanced' societies". No region in the world would be able to rely on distant energy supplies and they would have to fall back on their own resources.

One economic aspect of oil is that its demand is very price inelastic in the short term, meaning that it would require a large price increase to cause a significant reduction in demand. Prices at the pumps in the USA have almost doubled in recent times, yet gas-guzzling *Hummers* and other SUV's are still purchased like there is no tomorrow. Industry experts say massive effects on behaviour will only happen if supplies are disrupted or

prices hit \$5-a-gallon.

Another complication is that in the more developed countries the services industry has replaced much of their traditional oil dependent industries. This is why I don't believe that the oil prices will stop at \$100 a barrel, like some financial experts predict. In the short term, they would probably have to increase in excess of 300% or so to have the desired effect. This uptrend would then eventually be (temporarily) interrupted by slowing economic growth and from efforts of conservation.

Inflation

Rising energy prices would spur overall price increases, causing inflation. Energy costs will then become an increasingly bigger part of the economy, and the same % increase in oil prices that once had a negligible economic effect will suddenly be significant. At the same time, higher prices will cause a fall in demand and a stagnating economy. This is called 'stagflation' and is exactly what happened during the 1973 oil crisis.

Debt in many countries like the USA and the United Kingdom are at record levels, and strong economic growth then becomes essential. Falling home prices would threaten the foundations of those economies. Therefore, efforts to curb inflation by raising interest rates would hit house prices, which in a leveraged economy would cause a devastating downward spiral, pulling down businesses, consumers and banks. Policymakers will therefore be powerless to fight inflation that will then soon become widespread. Prices of food and manufactured goods will shoot up.

Depression

The world will first enter a recession followed by a very deep Depression that will make the 1930's Great Depression look like a dress rehearsal. Stock markets will plunge, businesses will go bankrupt and huge job losses will follow. Eventually, economic growth will cease or continue only in a few places at the expense of other places. The economic stress among almost all nations, advanced and developing, rich and poor will be considerable and is certain to lead to increasingly desperate competition for diminishing supplies of oil. The world will become a larger place again with less and less globalism.

Resource Wars

Many countries have become heavily reliant on Middle Eastern oil, and the geopolitical stakes of conflicts in this region have risen to all-time highs.

Indeed, the worst case scenarios are terrifying: genocide on a scale never before seen, as control of the remaining oil divides along racial, ethnic and national boundaries. Even the best-case scenarios, all of which require unprecedented levels of international cooperation, political courage and public participation, offer grim life-and-death choices. (Richard Heinberg)

So far, only the United States have ventured into the Middle East. But what is to stop China from continuing into Iran, Iraq and even Saudi Arabia as China will be energy starved in the foreseeable future. A military contest over oil could eventually spread war from the Middle East to Southeast Asia, and it could leave the oil production infrastructure of many countries severely damaged in the process. Such a conflict may be the Third World War.

Some Latin American countries may find themselves combatants in their own oil wars. Australia and New

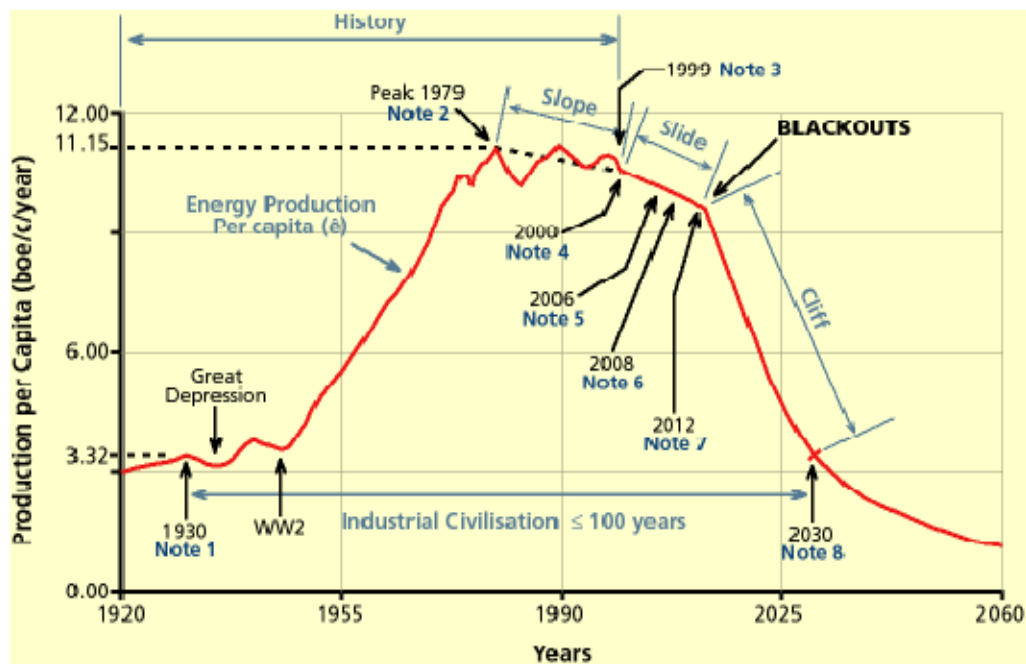
Zealand may fall victim to desperate Chinese adventuring or to anarchy emanating from Southeast Asia.

Social Chaos & Dark Ages

The European fuel protests of 2000 were an excellent example of what will happen when we are deprived of our the fuel powering our artificial lives. The implications of just this minor shortage caused by blockades of fuel depots was tremendous. Naturally there were huge lines at petrol stations to refuel, but there was also panic buying at the shops. Some ran out of bread and milk. Postal collections were suspended on Sundays to conserve fuel. Farm animals were threatened with starvation because the feed was unable to be delivered. Schools closed down and hospitals cancelled all but emergency operations. And all this from two and a half weeks. Similar events happened in the USA during the 1973 Oil Embargo.

The impending fuel crisis will be permanent though and the trucks will no longer pull into the Wal-Marts or supermarkets. The freighters bringing cheap and disposable household products from China will have no fuel. There will be fuel in many places, but hoarding and uncertainty will trigger outages, violence, and chaos. For only a short time will the police and military be able to maintain order, if at all."

When worldwide oil production starts to decline considerably, countries will be competing aggressively for fossil fuels as difficulties will start with even keeping electricity plants running.



The chart above is a graphic showing energy usage/population as a curve with various key points defined. These are:

- Note 1: (1930) the beginning of Industrial Civilisation
- Note 2: (1979) all time peak of world energy production per capita
- Note 3: (1999) the end of cheap oil
- Note 4: (2000) eruption of violence in the Middle East
- Note 5: (2006) all-time peak in world oil production
- Note 6: (2008) OPEC crossover when more than 50% of oil comes from the OPEC nations
- Note 7: (2012) permanent blackouts spread worldwide
- Note 8: (2030) world energy production falls to 1930 level

The future dates may vary but it is easy to see how, with the knowledge we have of oil depletion, the world

could slip into a Medieval or even Stone Age scenario. Even a Dark Ages world would be difficult to sustain with no coal and little wood to burn.

The blackouts that hit the eastern USA and Canada in August 2003, and the lesser failure that hit London's Underground system shortly afterwards shows the how totally dependent we are on electricity power and the dramatic effects that its absence causes. Standard and underground trains came to a halt, trapping people within; lifts stopped between floors; street lamps failed, people poured from the buildings, all increasing the risk of accidents. People were unable to communicate because they had switched from land phones to mobiles. The pressure on the emergency services was immense. Imagine the effects when it was the whole country, not just a few cities that is hit. And if that blackout lasts for days, with more occurring in following weeks.

When oil begins to decline, the blackouts (and brownouts when power is reduced) will be constant and hit throughout the year. No light, no heating, no cooking (unless you have gas and imagine how the cost of that will rise!) The number of deaths will soar and so will the pressure on the authorities. The emergency services, the hospitals and GPs, welfare – costs will rise as efficiency suffers. This spreading of rolling blackouts will ultimately cause severe recession, especially as oil prices go higher.

In time, the number of blackouts will increase and their time lengthen. This is when the very substance of civilisation will be put at risk. Our modern society cannot exist without electricity. It is even more essential to us than oil. Blackouts will take us back to the dark ages. We also see the inevitable issues that follow a major blackout: no water, no sewage, no gasoline. Sooner or later, suburbs will collapse into slums. Farmhand will be a more viable career choice than public relations executive. And avoiding starvation will replace avoiding boredom as the national pastime.

Reduced food supplies will also compromise immune systems and set up refugee camps will lead to diseases. New strains of the age-old human enemies such as tuberculosis, malaria, cholera and others will be on hand while vaccines will be ineffective and out of reach.

Food

It may come as a surprise to you that the world's industrial food supply system is one of the biggest consumers of fossil fuels. Vast amounts of oil and gas are used as raw materials and energy in the manufacture of fertilizers, herbicides and pesticides and as cheap and readily available energy at all stages of food production. Fossil fuels are also essential in the construction and the repair of equipment and infrastructure needed to facilitate this industry, including farm machinery, processing facilities, storage, ships, trucks and roads.

Industrial, green revolution-style agriculture is particularly energy intensive. Every calorie of food produced today requires between 10-16 calories of hydrocarbon energy (from planting, irrigation, feeding and harvesting, through to processing, distribution and packaging). This style of agriculture increased world grain production by 250%, and was almost entirely attributable to fossil fuel input.

Food production will become a problem of extreme urgency

Modern agriculture is merely a way of converting petroleum into food. Without energy, food supplies decrease and the current world population of 6+ billion has no hope whatsoever of sustaining itself at current levels.

It has been estimated that, without hydrocarbons to provide energy, fertilizers and pesticides, agriculture could not support a population greater than two billion. This reduction would take us back to pre-20th century levels but the disruption to society and its infrastructure would probably mean a reversion to pre-industrial revolution.

The example of North Korea shows us what happens to agriculture when oil products are removed. After the Korean war, it had developed a modern farming system depending on machinery and oil-based fertilizers. After the Soviet Union fell, Communist aid to the country stopped and they were unable to purchase oil and supplies. Without oil, farm machinery was sitting idle and large proportions of the people had to return to the agriculture. Unfortunately the soil had been drained of nutrients over the years and, without fertilizers, it was unable to produce the same output as before. Crop yields fell by 60% over the period 1989-1998. US congressmen and others who have visited North Korea tell stories of people eating grass and bark. Other reports talk of soldiers who are nothing more than skin and bones. Throughout the country, there is starvation to rival the worst found in Africa. Chronic malnutrition has reached the point where many of the effects are irreversible. Unless it can get access to oil and fertilizers again, the population will decline until it reaches a sustainable level and civilization will be faced with the delicate task of determining who survives. The history of North-Korea (DPRK) demonstrates how an energy crisis in an industrialized nation can lead to complete systemic breakdown

Peak Oil

&

Survival Strategies

[PEAK OIL](#)[THE CRISIS](#)[SURVIVAL STEPS](#)[BOOKS & DVD's](#)[AUTHOR](#)[NEWS](#)[LINKS](#)

"You must not only be able to survive the crash, but continue afterward"

Survival Step Guide

The experts and politicians have no plan B to fall back on. On a global scale Peak Oil is a problem without a solution.

It is extremely difficult to gather and process the enormous amount of information available and figure out what to do about it. Is it not a problem with an immediate solution or as some say a condition without a remedy. You must not only be able to survive the crash, but continue afterward.

We must shortly choose a new path, or one will be forced upon us

In the short time available, attempts to make collective changes are a waste of time & energy. Energy expert Simmons says that once energy peaks, the shock will be greater than anyone could imagine, while there is no solution to the problem other than to pray.

However, on the level of the individual/family there is much that can be done at relatively low cost to not only prepare for an economic crash, but to leapfrog past it to a post oil paradigm. While the present infrastructure continues to function you still have vast resources disposable that are only a click away. Once a crisis begins, it may be too late.

This concept has formed the basis for the development of the survival strategy presented in steps. It is a framework with some very useful information and concrete advice, that is close to the realm of practicality. I have spent a lot of time on research using a wide multi-discipline resource base. The advice given is aimed at providing foresight and a step forward to better prepare us. The step about strategic location is the largest section, presenting an enormous challenge to make an assessment due to the complex and dynamic nature affecting the choice of location. Nevertheless, it has proved possible to give some very useful guidelines, often 'cutting to the chase' as to which regions to avoid or consider based on key physical and socio-geographic factors. Also is discussed *self-sufficient retreats* versus *communities*.

If you are on a limited budget and if time is an issue, this website along with this guide will give you a wealth of information, without having to resort to spending multiples on other books, and help you make vital preparations.

Hope for the best, Prepare for the worst, and Accept whatever comes.