

For 90,000 years, our species (*Homo sapiens*) lived as nomadic hunter-gatherers. In spite of the potential to increase rapidly, population was limited by the delicate balance between sporadic, food supplies, climate, and personal energy available to forage.

About 10,000 years ago, superior intellect, helped by the additional energy of draft animals, began the food production of grains and animal protein. On this basis, population continued to increase but still at very low levels as limited by arable land availability, crop failure, tribal conflicts, disease, and the usual vagaries of climate. In addition, although not readily obvious, any non-sustainable interference with, or efforts to maximize, the delicate productivity of the land invariably resulted in a cut-back in output and localized or widespread famine. Still, there was enough additional food supply through agriculture to allow a higher population level, culture, trading, exploration, cities, organized religion, and, of course, warfare as dissimilar societies interacted at their boundaries.

In 1798, Thomas Malthus proposed that human population, like any biological species, tends to increase exponentially until checked by “misery” caused by finite food and fuel resources. Any successful attempt to mitigate this inherent limitation only allowed additional population to re-establish the same misery at a slightly higher level. The cruel practice of harnessing human labor by slavery also allowed a few to flourish as others were suppressed.

Then, unanticipated by Malthus, the Industrial Age began based on discoveries which utilized vast quantities of previously stored fossil energy. As would be expected, world population then exploded six-fold as the new energy sources as well as concurrent new technology provided increased food supplies and longer life expectancy. Unchecked population has continued to grow exponentially for the last 150 years as the fossil energy has been available in surplus. This is about to change because it is not possible for 7 billion people to survive on this planet without the temporary fossil energy base for food production. There is clearly not enough incoming annual solar energy to make up for the diminishing fossil energy and crop land lost to eco-devastation. The consensus among population experts (see page 8) is a comfortable, sustainable carrying capacity of a non-fossil-fueled world be limited to about two billion people.

These and many other respected authors have been warning of imminent “peak population”. Few would listen as there has been enough excess food to keep the party going until now ... except for about half of the world, which has already slid over the cliff of diminishing food, ravaged resources, and localized climate change.

The first half of this booklet described a critical mass of three crises facing civilization. The second half, starting with education and resource conservation, offers legitimate solutions for survival from a personal to a national level.

Most Americans have yet to comprehend or even believe the urgency and magnitude of our dilemma, but the long time span required is such that we must begin to vigorously implement corrective action long before the combined crises become overwhelming.

Some of the actions defined are logical no-brainers. Others are totally contrary to human nature where short-term comfort and profit are far more enticing than long-term survival. Smoking and obesity kill nearly one million Americans a year, yet the obvious corrective actions are less acceptable than the pleasure of the moment. These may be “someone else’s problems” whereas the triple-crisis of fossil-energy depletion, population, and eco-devastation will bring us all down collectively ... you, us, our kids,..everyone. The Titanic has already hit the (peak) iceberg, and we’re all in the same lifeboat ... right or left, rich or poor.

The following solutions constitute a collection of concepts available in the references listed on pages 3 and 8. Also included on page 12 is a short summary of the many mirages or erroneous answers that only give false hope and waste valuable time. They are either technically wrong, or at cross-purposes; for instance, using valuable food bioenergy for frivolous transportation.

The proposed solutions just might work only if they become a mass movement of Americans, and hopefully, world citizens. This might be called a “save-civilization movement”. The implication of such a movement is already infiltrating part of the religious community, for instance:

- The book, *Sustainability and Spirituality*, listed on page 8 defines the synergism of these two concepts combined to become a doctrine of ecology and ethics.
- A critical and religiously oriented assessment of the threats posed by climate change was given by Sir John Houghton to the National Association of Evangelicals in March 2005. (www.creationcare.org). His book is also listed on page 8.
- *The Cry of Creation* is an interfaith study guide on global warming prepared by the Earth Ministry (www.protectingcreation.org)

In sync with population growth and fossil energy consumption is the directly related destruction of almost every natural eco-system on the planet. Environmentalism has been of growing concern by itself signaling a spreading collapse of interrelated world systems. History is replete with localized ecological disasters, but now, with the globalization of resource depletion made possible by fossil fuels, there are no longer isolated areas unscathed by expanding human presence and environmental destruction. Examples:

- Unsustainable, intensive agriculture leads to top soil loss, erosion, desertification, and lower water tables. The result is decreased per-capita food availability even with increases of fertilizers, irrigation, pesticides, herbicides, and genetically-modified crops designed for mono-culture. All of these are made possible with fossil fuels.
- Over hunting, over grazing, over fishing. Large parts of the ocean are becoming dead zones. Mass extinction of species is accelerating.
- Extensive deforestation of all parts of the world. For instance, the Brazilian rain forest is being reduced by 10,000 square miles per year. The resultant burning contributes to over 20 % of atmospheric CO₂. In the world, 121,000 square miles are deforested each year.

In the last 100 years, the consumption of fossil fuels has introduced so much CO₂ into the atmosphere that climate change (specifically global warming) is now an accepted fact. Thirteen billion tons of CO₂ are released into the atmosphere each year. Recent studies show the Arctic ice cap open, Greenland ice is breaking up, and Antarctica is diminishing in size and ice volume. The world may have passed the time for corrective action against possible scenarios:

- Drastic ocean level increases of up to 10 feet, whereas only a few inches is already causing flooding in densely populated areas.
- Imminent shut-down of the Atlantic conveyor belt that relies on cold salt-water density to bring a habitable climate to N. Europe.
- Increased water temperature in hurricane-path waters like the Gulf of Mexico, which in some areas is still above 80 degrees in the winter of 2006. The number of hurricanes and intensity is definitely increasing.
- Heat waves and drought are more common every year.
- Glaciers the world over are disappearing.

Humankind, led by the U.S., is only repeating, in a very short period and on a global basis, the sins which caused the crumbling of many ancient but more localized civilizations.

(but waste valuable time and dollars while we chase them down)

With the onset of peak oil and higher energy prices, there is a flurry of new and, in many cases, revived old panaceas. Some have a touch of legitimacy. Some are pure snake oil, some are only a way to profit either from selling books or from ill-directed research grants and tax incentives. Not necessarily in order:

- **Hydrogen-Hype:** Now quieting down. Most people understand it has to come from fossil fuels, or if from renewables, is a terribly inefficient way to use precious non-fossil-sourced electricity. In addition, it is very dangerous and technically difficult to handle and store in compressed or cryogenic form.
- **Biofuels (exclusive of wood):** Sunlight is very dilute and sporadic. Expecting the annual solar energy to replace the millions of years of concentrated solar energy in fossil fuels is impossible. As the fossil fuel base (nitrogen fertilizer, diesel fuel, irrigation- energy, etc.) for our food supply winds down, we will need ALL the biomass energy we can find just to feed ourselves. Also, bio-fuel production (esp. ethanol from corn) requires about as much fossil energy input as the resultant energy yield. The energy returned on energy invested (EROEI) is too close to unity to be worthwhile. Finally the intensive mono-culture of crop land is not sustainable.
- **Wood:** Somewhere between dilute annual sunlight-energy and concentrated fossil fuels is wonderful wood. But, it takes 50 to 100 years to grow a reasonable tree. Harvest at a quicker rate only depletes the forest, soils, and ecological balance. This signals the end of a civilization and is happening the world over and exacerbated; by increasing population and fossil-fuel powered harvesting equipment. (See *Strangely Like War* on Page 8.)
- **There's Plenty Left:** We are now using about 6 barrels of oil (at one billion barrels, worldwide, every 12 days) for every single new barrel discovered. Natural gas is not far behind and can't be shipped overseas except as liquid natural gas (LNG). Coal and tar sands are more plentiful but contribute heavily to eco-devastation and will soon approach an EROEI of unity, especially as oil runs down and the harder-to-reach, dirtier sources are mined.
- **Efficiency Will Save Us:** Only if we concurrently reduce consumption (reverse growth and population). In most cases improved efficiency increases consumption due to increased value and numbers of consumers. ("Jevon's Paradox") In the long run, we must survive with no fossil energy at all.
- **Other Sources:** Nuclear, hydro, geothermal, solar, and wind are all legitimate. But, except for solar and wind, all are limited by site availability or in the case of nuclear, finite fuel and waste problems. Total energy will be much less without fossil-fuels.
- **"Pie In The Sky":** Abiotic oil, nuclear fusion, methyl hydrates, shale oil, perpetual motion machines, etc. None are proved.

Our Addiction to Oil

Page 5

(This and the following page are a summary of the many books and web sites listed on page 3.)

Convenient and high energy content oil has infiltrated into every corner of modern life. In the U.S., with one-twentieth of the world's population, we presently consume 20 million barrels every day, which is about one-fourth of the total world production. Of this, one-half (400 million gallons per day) is used for gasoline alone. Oil runs our whole economy. It makes and transports the food we eat. It puts our planes into the air and moves our military. It is the source for plastics, chemicals, rubber, asphalt for our roads, and thousands of other products we take for granted and have come to depend on in the last 100 years.

What will we do as the short 150-year Oil Age runs down? Each gallon, equals the energy of three strong people working for a week yet today we use it with no regard for the inevitable shortfall or our children's future. What will run our snow plows or power our trains, our 18-wheelers, and fuel our race cars a few years from now? How will we heat our homes next winter as the price of heating oil climbs above \$3.00 per gallon? Clearly we are confronted by a dilemma of unprecedented magnitude.

To make matters more urgent, parts of the developing world (China and India) are scrambling to catch a piece of the fleeting Oil Age. Because of their lower labor costs, we send our dollars for their products, which allows them to outbid us in the world oil market. This imbalance of payments is exacerbated by the direct flow of dollars to oil-producing countries of which many don't like their dependency on us as their dominant customer. Most oil-producing countries are experiencing a decrease in annual production. Should they sell now at a low but very profitable price or save proven reserves as they run low and prices skyrocket even higher? The record profits recorded by shareholder and nationalized oil companies are more an indication of dwindling supply than greed. Just as with increased demand for real estate, or any finite commodity, prices soar and the owner benefits. The economists still argue that the higher price will encourage exploration. Prices will then drop assuming more is found. But, 2005 was a year of record-low discovery in spite of continued drilling efforts. As the old saying goes, "You can't get blood out of a turnip."

Non-fossil Energy Sources

Page 14

The total U.S. energy consumption in 2004 can be broken down as follows:

Fossil Fuels	Non-fossil Fuels
Oil 40% (7.3 billion barrels per year)	Nuclear 8%
Coal 23%	Hydro 2.9%
Natural Gas 22.7%	Wood 2.1%
<hr/>	
Total Fossil Fuels 85.7%	Biowaste 0.5%
(source: EIA, DOE)	Ethanol 0.3%
	Geothermal 0.3%
	Solar 0.06%
	Wind 0.14%

The Three fossil fuels represent a non-renewable "bank account" being drawn down at an annual rate leading to complete depletion or the point of negative energy return on investment (EROEI) in less than one lifetime. This prediction can be challenged but more optimism will, in no way, change the obvious threat of the "Triple-Crisis." New unexpected discoveries might provide extra time and a better chance to effect a transition protocol to less population and a much lower-energy future. However, the desperate consumption of additional fossil fuels will only exacerbate the global warming component. A sustainable future can only come from sustainable, clean energy.

Nuclear

The best bet for continued, clean electricity on a large scale. But, sources of finite, fissionable uranium must be found and ultimately mined without cheap fossil energy. This scenario also assumes that acceptable waste disposal and protection from terrorism can be assured. Also, nuclear, like all other non-fossil energy sources except biofuels, produces only direct electricity. No matter what energy sources we use we will need a complete rethinking of our transportation system.

Hydro

Limited to acceptable sites nearly all of which have been used. Global warming has reduced water flow and electrical output in the last decade. Considerable fossil energy is required to replace dams, which ultimately fill with silt. Reversible pumped hydro at 85% efficiency (as well as nuclear) can be used to smooth the sporadic output of solar and wind.

Biofuels

Only for absolutely essential needs as liquid fuels, lubricants, etc. and with full understanding of the required energy input and the deleterious effect on crop land and food supply. See pages 7 and 12 for more details. Waste products will decline as a source of fuel because the original energy sources are finite and depleting.

Following are a few of the contemporary works, which explain energy and expand and validate the concept of Peak Oil. This theory was proposed in the 1950's by the late M.K. Hubbert, hence the term "Hubbert's Peak" for the apex of the oil production curve.

Books: (all available on Amazon.com and in bookstores)

Campbell, C.J., *The Coming Oil Crisis*, Multi-Science, 1997 - This is the basic original book defining the peak oil crisis.
Campbell, C.J., *The Essence of the Oil and Gas Depletion*, 2003
Deffeyes, K., *Hubbert's Peak*, Princeton University Press, 2001
Deffeyes, K., *Beyond Oil, Hill and Wang*, 2005
Heinberg, R., *The Party's Over*, New Society Publishers, 2003
Heinberg, R., *Powerdown*, New Society Publishers, 2004
Howe, J.G., *The End of Fossil Energy*, McIntire Publishing, 2005
Simmons, M., *Twilight in the Desert*, Wiley and Sons, 2005
Savinar, M., *The Oil Age is Over*, Morris Publishing, 2005
Pfeiffer, D.A., *The End of the Oil Age*, self-published, 2004
Darley, J., *High Noon for Natural Gas*, Chelsea Green, 2004
Kunstler, J.H., *The Long Emergency*, Atlantic Monthly, 2005
Cooke, R., *Oil, Jihad and Destiny*, wizwire.com, 2004

Web Sites: (Start at the top and link ad infinitum)

321energy.com – hourly market price of energies plus editorials
energybulletin.net – same as above
theoildrum.com – the daily beat by concerned experts
peakoil.net and peakoil.ie – basic UK sites
peakoilcrisis.com – another excellent starting point
asponews.org – Association for the Study of Peak Oil and Gas
aspo-usa.org – U.S. branch of ASPO
odac-info.org – UK source of world activity
postcarbon.org – comprehensive US site
oilcrash.com – the same concerns in New Zealand
bartlett.house.gov – Congressman Bartlett's site for peak oil action
greatchange.org – an original site
dieoff.com – the pessimistic view of the Oil Age
oilcrisis.com – very comprehensive long-standing site
lifeaftertheoildrum.net – a young lawyer's realistic assessment
powerswitch.org.uk – dedicated to raising awareness
wolfatthedoor.org.uk – more UK concerns
drydipstick.com – a peak oil mega-directory
peakoilaction.org – working to raise awareness
oilcrashmovie.com – new for 2006 with audio
globalpublicmedia.com – public broadcasting of peak oil
petropeak.com – straight talk on all petro-issues
survivingpeakoil.com – delivers as promised
financialsense.com – recent business viewpoint about oil

2. **Immediate rationing of all fossil energy.** We have already entered the zone of inflationary energy prices as the shortfall of energy production can no longer keep pace with continued growth. By stretching out the fossil energy that is left in the world, we can buy time to transition to a sustainable modern economy while decreasing consumption and controlling cost on a predictable basis (a Depletion Protocol or Five Percent Per Year Reduction Plan as some have suggested).
3. **Implement massive education** at all levels to raise public awareness of the seriousness and perils of our coming crisis and the need for urgency to act BEFORE it is too late. The signs are everywhere. We need as much time as possible if there is any hope for mitigation and a soft landing. A convincing argument is especially urgently needed for the marketing of a one-child per couple policy.
4. **Subsidize development and transition to truly sustainable or renewable energy** LONG BEFORE it can compete economically on an even footing with residual fossil energy. Focus on legitimate long-range goals such as solar-panel and battery manufacturing instead of last ditch efforts to find and confiscate the last remaining fossil fuels...our children's inheritance.
5. **Define and support population relocation** from unsustainable, energy-dependent, food deficient megalopolis centers to self-sufficient low-energy communities as defined in page 17.
6. **Subsidize revitalization of the family-farm system** so that it can supply all citizens as the fossil-energy, artificial-support system winds down. These family farms will be an integral part of the low-energy community.
7. **Begin the definition and long transition of our transportation system** from an immensely wasteful, petroleum-based "petro-insanity" to a very-efficient, short-distance, sustainable network. Ultimately, our transportation needs will have to be fueled by renewable electricity sources like solar-powered cars... long distance by electric trains
8. **Re-establish our national security effort at our borders.** Control immigration to insure negative population growth (page 13). This will become more critical if we, as a nation, are successful on a survival path and the rest of the world does not follow.

Gradually we must reduce our military presence throughout the world as we mend our fences and set an example for national survival with much lower energy and reduced globalization. These hot-button issues are the toughest challenges of all. The best way to answer the arguments is to **consider our future bargaining power without fossil energy.** Whether we like it or not, we will no longer be able to support military activity throughout the world. We have to draw the line somewhere, better at our borders than trying to defend our states, communities, or homes.

Index

Page 1

Introduction	page 2
Energy Bibliography and Websites	page 3
The Short Fossil Energy Age	page 4
Our Addiction to Oil	page 5
Ecological Devistation	page 7
Population Bibliography	page 8
Ecological Devastation Bibliography	page 8
Population and Exponential Growth	page 9
The Survival Plan.	page 10
Education	page 11
Conservation	page 11
Delusions (that will not save us)	page 12
Negative Population Growth (the ultimate issue)	page 13
Non-Fossil Energy Sources	page 14
Action on a National Level	page 15
The Low-Energy Community	page 17
Personal Action	page 18
Graphic Summary	Back Cover

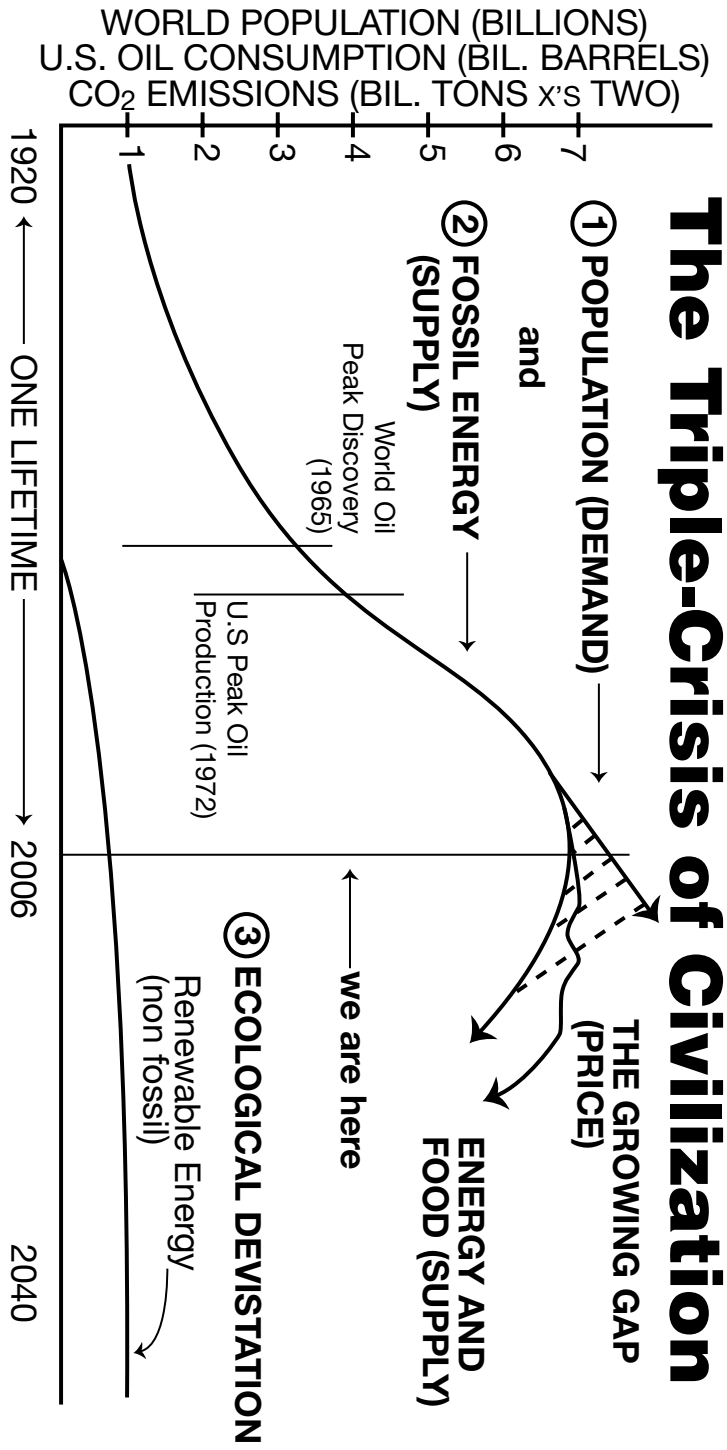
Personal Action

Page 18

Hopefully you have read this far and can appreciate the seriousness, magnitude, and complexity of the “Triple-Crisis.” Obviously, our only chance is to enact massive change on a national level. But, national redirection only happens as a response to a ground swell of combined personal action ... a protest movement or a revolution. Nothing will happen if individuals do not take their fate into their own hands. In addition, there are many things individuals should do to be ready for the coming crises whether they be power shutdowns, food shortages, or climate-caused catastrophes. Remember, don’t plan on calling someone on your cell phone to come and save you. Everyone will be too busy saving themselves. Below are actions you can take immediately:

1. Continue to educate yourself about energy, population, and ecology. Don’t be misled into complacency by the delusions (page 12). Tell others what you’re learning.
2. Drastically decrease your personal gasoline consumption. (One-eighth of the world’s petroleum goes to American motoring). This will save money as prices steadily rise. If you can’t afford a hybrid, buy one of the many cars that gets 35 mpg and drive half as far. This is the easiest first step.
3. Plan to heat only a core area of your home (kitchen, bathroom, laundry, living area) to less than 65 degrees f for the winter months. Wear much warmer clothes. Three hundred square feet per person would be luxurious for 99% of the world. Rearrange water pipes and insulation accordingly. In hot climates, rearrange living area into a cooler zone (cellar, breezy area) to minimize air conditioning. When the weather cooperates, you can expand back into the rest of your home. All of the above will require only a minimal expenditure, not rebuilding.
4. Grow a garden. Dig up the lawn, fertilize and build up the soil. NOW! It takes a few years to get up to speed. Remember one acre could be a commercial farm in China. You’ll be healthier and happier than riding the lawn mower. Learn where food comes from and how to store it. A good part of suburbia is built on good farm land. Buy a copy of *Mother Earth News*.
5. Get the kids involved and start your own solar photovoltaic system. A couple 150 watt panels, charge controller, batteries, and 1000 watt 120-volt inverter costs about \$3000. Don’t worry about intertieing with the grid. This will be your educational and emergency back-up system. Check state incentives.

Finally, and most importantly, keep this movement expanding by reproducing this survival handbook ... by ones, hundreds, thousands. Mail them out or leave them everywhere. Add your comments or opinions. This is an anonymous work-in-progress that must reach great numbers of Americans in a very short time. Thanks for becoming proactive.



WHY IS CIVILIZATION COLLAPSING?

The Triple-Crisis of Civilization

Energy • Population • Eco-Devastation

Survival Handbook



From:

(please pass along)

To:

First Class 39 cent postage

Block out this area below this line for reproduction

- What's inside:
- The energy crisis
 - Climate change
 - Population
 - An overview

The Low-Energy Community

Page 17

The key component for a low-energy sustainable future is a community center with the following objectives:

1. Strive for a balance between peripheral AGRICULTURAL land, which can sustainably supply food for the farmers and community center inhabitants. This food supply will ultimately rely ONLY on manual or draft animal power, solar-powered tractor power or biofuels made locally, IN LIEU of food. Fossil-fuel based fertilizer, herbicides, pesticides, and irrigation will diminish.
2. Transportation energy will become unavailable except for electric or muscle power. Therefore the furthest distance to a community center would be a radius of about 20 miles. Present U.S. arable land of about 300 million acres will not be able to provide for 300 million inhabitants at today's rate of 10 energy units of fossil fuel input for each single energy unity of food output. Ideally a 20 mile radius (800,000 acres) with one-half (400,000 acres) perfectly arable land could support 250,000 people with approximately 200,000 in non-agricultural roles. The others 50,000 would live on 10,000 farms, each with approximately 80 acres with one-half tillable. The other half of the land would be forest, green space, and recreation area. On this basis, a downsized U.S. population of 250 million people could live on 1,000 such community centers utilizing 800 million acres or about one third of the total U.S. land area.
3. The community center will provide the energy -mixing hub for surrounding self-generating residential energy services as well as centralized energy sources. It would also be a community center and transportation hub for intra-city electric-rail travel and shipping, which may also connect to traditional water travel routes.

The above model is only an idealized form. Obviously our present urban and rural structure WILL HAVE to gravitate in this direction as any other arrangement has to be compromised by the available food supply and limited by local and long-distance travel requirements. Food production and travel (movement of people and/or commerce) will be the greatest challenges of the future. Domestic heating and power are a little less serious but still very difficult. Reduced population (see page 13) is essential to implementing a 50-year plan based on relocalized community living. Traditional walkable urban centers are obviously a key part of the low-energy community concept.

Introduction

Page 2

Dear Reader,

May 2006

This document attempts to address the complex, interwoven, imminent crisis of civilization.

With a better understanding of the urgency of diverse but interrelated issues of energy, population, and ecological concerns, hopefully, realistic solutions can be implemented in time for survival. Many disparate (desperate) voices are telling us that we are, in many ways, at a tipping-point in history. When combined, the facts, synergism, and conclusions are undeniable.

Modern civilization is already slipping over a cliff. The information presented herein is accepted math, science, and history. The ONLY hope for a successful outcome is for individuals to readily understand the seriousness of our situation and to disseminate this message as quickly and widely as possible. Action on a personal and national level is urgently needed.

This 20-page summary is an attempt to subsume the vast information sources included books, web sites, news articles, and public media. By combining everything into an easily reproducible form, hopefully, a large enough number of concerned readers will extend and expand the chain of communication into a ground swell of public activism ... especially considering the short time available to affect the outcome.

PLEASE GET INVOLVED. This movement is non-religious and non-political. It is our only hope.

There is no explicit author for this booklet. There is no copyright or ISBN number. You, as an integral link in a rapidly growing chain of communication, must provide the reproduction and distribution functions (marketing is everything!). If each recipient were to reach just five additional new active readers and conveyors of this document each month, after twelve months 470 million people will be aware of the crisis and a survival plan. This booklet can be reproduced for about 25 cents. It can be mailed with a tape closure (not stapled) for 39 cents. It can be left in a convenience store or public place like any free "mini tab"

All are site specific and cannot be scaled up to be of importance.

Wind

A true, clean source that can be scaled up extensively especially while fossil fuels are still available for manufacture and installation. Sporadic electrical output could be smoothed by working in concert with solar PV and other available sources.

Solar PV (photovoltaic)

The best modern technology providing direct electricity on a local or centralized basis. Very dilute and sporadic but infinitely scalable and especially applicable to residential use as well as direct solar-powered tractors and cars. In all cases, the weak output needs to be coupled with battery storage and/or other sources. This is our best bet for a long, clean future including agricultural power and transportation. Small urban and suburban farms could use approximately 100 volt tractors with integral solar-panel arrays and large battery-packs. Huge commercial farms might better use a large portable separate array of 4 to 8 kilowatts peak power (300 to 600 square feet). With a 200 ft. #8 cable, this concept would allow working up to 3 acres almost on a one to one energy basis as long as there is direct sunlight. The portable central array could be moved to a new location or brought to the farm buildings in off-season.

The high cost and availability of PV will require a 50 year scale-up from present minuscule levels. We need massive investment in solar PV and lead/acid battery recycling facilities.

Action on a National Level

This page is a synopsis of a survival plan for the United States. It is a logical synthesis of the separate voices listed on pages 3 & 8.

The personal actions suggested on page 18 can only help our national survival if they are integrated into a national, master plan and all citizens contribute equitably to the common goal. This concept is contrary to the tradition of individual freedom and genetically-hardwired human tendency for acquisition, population growth, personal pleasure, competitive or economic success, and resource consumption (regardless of long-term consequences or negative effects on others). We need leadership that reflects the long term interests of the general population. No earlier failed civilization accomplished this feat otherwise they would be here now.

1. **Commit all possible resources.** Our national survival in the next decades (not centuries) is MORE IMPORTANT than terrorism, epidemics, social security, health care, space exploration, military spending, or any other national program. In most of these cases, these other issues are interactive with fossil-energy depletion (peak oil), population growth, and ecological devastation. We need a "Manhattan Project" to design and implement a plan that works and is clearly sold to the American public.

The Industrialized World is just concluding a 150 year party provisioned by a seemingly unlimited supply of finite fossil energy; oil, natural gas, and coal. As with any living species with a surplus of food-producing resources, population increased exponentially in lock-step with consumption as well as the concurrent devastation of nearly all other world ecosystems.

By 2005, it became obvious that world oil production could not continue to satisfy rapidly increasing demand. About 85 million barrels per day (one billion barrels every 12 days) has not been exceeded into 2006. The term "Peak Oil", long predicted by oil geologists, now appears to be fact and no longer theory. Rapidly rising oil and gasoline prices have sparked public concern and made energy a mainstream topic. This, in spite of attempts by Exxon-Mobil and the Nigerian oil minister (who is also the head of OPEC) to convince us that we still have two trillion barrels of conventional oil left but with one trillion yet to be found. We are now consuming over six barrels of oil for every new barrel discovered.

Closely following the depletion of oil (40% of our total energy) are natural gas (23%) and coal (23%). Natural gas reserves are isolated and limited. Precarious pipelines and complex LNG shipping further impede smooth world market supply lines, all leading to steadily higher and locally-spiking prices. Coal is more plentiful but incurs a high cost in energy and ecological impact to mine. In addition, because of the long carbon backbone in the solid coal molecule, huge amounts of CO₂ as well as other pollutants are released during burning or conversion into "clean" coal or synthetic liquid fuels. Together, the consumption of the three fossil fuels releases most of the 13 billion tons of CO₂ added to the atmosphere each year.

Clearly, the handwriting is on the wall. Our short, high-energy Industrialized Age, made possible by fossil energy, is stretched to the limit and will clearly take modern civilization down with it as it runs out unless we take drastic action immediately. (See the back cover for a visual summary.)

Page 3 lists just a few of the rapidly expanding number of books and web sites dealing with fossil energy. Peak Oil is the publically visible tipping point, which sheds light on the other two intertwined parts of the triple-crisis of civilization: population and eco-devastation.

Population growth cannot continue. This is the most critical and toughest challenge to face humankind as a species out of control while ravaging the earth's remaining resources. No other living creatures consciously ponder their future survival ... hence a difficult life of misery (per Malthus) as maximized numbers always stretch the limits of finite and food sources. Are we up to the task of controlling our future? We will never get another chance on this planet because the artificial resource peak of fossil energy is being depleted forever.

The respected population experts (page 9) tell us that even 1.5 children per couple will not start population downward until long after fossil energy declines and our environment is irreversibly destroyed. Only one child per couple will buy the time (50 Years) to mitigate a transition to sustainability. How can this be done?

1. Again, as delineated on page 16, we need a massive national commitment, including rationing, education, and effective economic incentives for things that work, not extra tax credits for additional children. Who would bring a child into a future doomed without negative population growth? Respect the math and science. Less new babies is the only hope for today's children.
2. Hopefully, with the cooperation of all religious and ethnic communities, as well as peer pressure, all methods of contraception will be encouraged. A vasectomy after one child might be much more acceptable than dependable and/or unacceptable birth control. China's unsuccessful attempt at one child per couple led to a large plurality of male children. This obvious infanticide has been documented throughout history even through the Victorian Era.
3. Like any living species, humans gravitate toward resources. "We want what you have." Immigration (legal and illegal) is a huge problem throughout the affluent western world. The first Europeans were (usually unwelcome) immigrants to the American continents. They multiplied and prospered, in many areas on the backs of slave labor, while fossil energy and vast natural resources expanded the party.

If the U.S. were successful in implementing a long-term national survival plan based on population reduction, obviously we need very rigid immigration laws. Illegal immigrants will ultimately have to be rejected or become law abiding American citizens.(See item 8 on page 16.)

By 2005, the first indications of peak oil awareness (headlined by the title of this page from President Bush and his 2006 State of the Union Address), started appearing from Washington. On Dec. 8, 2005, the House Energy and Commerce Subcommittee on energy held its first full-scale congressional hearing on peak oil. A bipartisan caucus co-chaired by Rep. Roscoe Bartlett (R-Maryland) and Rep. Tom Udall (D-New Mexico) along with 16 other congressmen prepared resolution 507 beginning with the following paragraph:

Expressing the sense of the House of Representatives that the United States, in collaboration with other international allies, should establish an energy project with the magnitude, creativity, and sense of urgency that was incorporated in the 'Man on the Moon' project to address the inevitable challenges of 'Peak Oil'. (See www.energycommerce.house.gov/108hearing for complete transcript.)

Each time the price of oil and gas ratchets a little higher, the mainstream media gives sporadic attention. Unfortunately, the message the public hears is a blend of obfuscation and short-term excuses such as inadequate refinery capacity or terrorist activity in producer countries. (See "We Were Warned" on CNN, March 18 and 19.) As usual, media coverage is "balanced" by conflicting optimism. See page 12 for the usual delusions. Very rarely is the concept mentioned that the world just might be running out ... forever! Very few, big business, the media or most elected leaders can fathom or admit that the oil party is over. We're now faced with a giant hangover.

As with any addiction or terminal-illness prognosis, the first reaction is denial. How can this be? Our entire economy (and our personal plans) are built on never-ending growth fueled primarily by oil. As reality sets in and logic rears its ugly head, the next response will be ... depression, "gloom and doom". Next, we obviously must begin the weaning process without substitution of hopeless quackery. Finally, a proactive search for honest answers and solutions brings back some optimism even if the best first hope is to encourage others, to join a mass movement of public awareness. Remember, our addiction to oil is only a visible part of the other interrelated problems of excess population and ecological devastation.

Civilization has reached a confluence of terminal illnesses. There are already serious symptoms which need attention. The earlier the correct diagnosis, the better hope for success of treatment. As stated before, population growth and eco-devastation, as exacerbated by cheap, plentiful energy, have been with us for years, but so far have been problems “somewhere-else” on the planet. Now that peak oil, signaling fossil-energy depletion, is out of the closet, we need a precise understanding of our dilemma.

The human psyche tends to externalize or ignore facts which are remote, unpleasant or economically impossible to estimate. Although history, math, and science tell us we are traveling an unsustainable path, we continue blindly along oblivious to our direction and fate.

We need an honest diagnosis of our collective, synergistic ills and a prognosis which prompts us to action. The respected references offered on pages 3 and 9 form the basis for this short summary and are the best sources for further research. Every individual, parent, teacher, political leader, theologian, and media member needs to understand the details and magnitude of our pending decline and potential collapse as a civilization. Once the seriousness sinks in, each should strive to teach as many others as possible even if it means only passing along this document. First, we must know, before we can begin action including personal planning for survival.

Conservation

Once we understand that our life-supporting resources, especially as related to fossil energy, are fast depleting or being destroyed, the first thing we should do, obviously, is conserve what we have left. This is the most difficult pill to swallow as it signals the demise of the fossil-fuel based consumption party we’ve been on for longer than any living human memory.

Initial conservation would actually be easy for us Americans since we presently waste so much. Even the most luxurious other industrialized nations like Japan or western Europe use half as much energy per capita as the U.S. But, in the long run, nothing will save us if we don’t reduce population on a parallel path as fossil energy winds down. Growth, as we know it, will reverse.

We need strong leadership to guide us equitably on the journey to a new low-energy, sustainable civilization starting with the honest facts of why we need to ration our precious, remaining, non-renewable, fossil fuels ... we need to end our “addiction to oil”. Read on for the treatment program. Get involved. Make a difference.

Population, Bibliography

Since Malthus 200 years ago, these voices have been telling us that population growth (which in effect drives consumption growth) cannot continue indefinitely, especially exponentially. It always hurts when the ceiling of food (energy) is breached. Are humans smarter than yeast which multiply, overshoot their food supply, and then collapse?

- Malthus, TA., *On The Principle of Population*, Oxford, 1798
 Ehrlich, P., *The Population Bomb*, Ballantine Books, 1968
 Ehrlich, P., *The Stork and The Plow*, Yale Press, 1995
 Bartlett, A., *The Essential Exponential*, U. Of Nebraska, 2004
 Grant, L., *Too Many People*, Seven Locks, 2000
 Grant, L., *The Collapsing Bubble*, Seven Locks, 2005
 Cohen, J., *How Many People Can The Earth Support?*, Norton, 1995
 Meadows, D., *Limits of Growth: The 30 Year Update*, Chelsea Green, 2004
 Stanton, W., *The Rapid Growth of Human Populations, 1750-2000*, Multi-Science, 2003
 Bergstrom, G., *The Hungry Planet*, MacMillan, 1972

Ecological Devastation, Bibliography

These are just a few of the respected authors warning about human devastation of all parts of the delicate earth eco-system. Is anyone listening?

- Brown, L., *Plan B*, Norton, 2003
 Youngquist, W., *GeoDestinies*, National Book, 1997
 Ponting, C., *A Green History of the World*, Penguin, 1991
 Pimentel, D., *Food, Energy, Society*, University of Colorado, 1996
 Diamond, J., *Collapse*, Viking, 2005
 Gelbspan, R., *Boiling Point*, Perseus, 2004
 Hartmann, T., *The Last Hours of Ancient Sunlight*, Three Rivers, 2004
 Linden, E., *The Winds of Change*, Simon and Schuster, 2006
 Laszio, E. and Seidel P., *Global Survival*, Select Books, 2006
 Wilson, E.O., *The Future of Life*, Knoff, 2003
 Jensen and Draffan, *Strangely Like War*, Chelsea Green, 2003
 Houghton, J., *Global Warming: Complete Briefing*, Cambridge, 2004
 Carroll, J., *Sustainability and Spirituality*, New York Press, 2004
 Kolbert, E., *Field Notes From A Catastrophe*, Bloomsbury, 2006
 Gore, A., *The Earth in Balance*, Houghton, 1992
 Flannery, T., *The Weathermakers*, Grove/Atlantic, 2006
 Lynas, M., *High Tide*, Picador, 2004