GAIA Newsletter – June 2008

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THE GAIA newsletter will regularly update the information about our 60 years crisis on this website. That is how a minority of the human population living today in the rich western world = our generation – you and me have managed to seriously harm our common environment and endangering the common future for coming generations and for thousands of species on our living planet – Gaia. We have now an enormous challenge – that is to drastically change our present way of living above our means. This can not be done with more of the same – as our present leaders are preaching in their globalization and consume more mantra. The same persons, the same model and the same thinking that has created this enormous problem cannot solve it. We need a complete turn around. And this is the most difficult thing to do – to change our selves.

All time high CO_2 level!

Mauna Loa in Hawaii reached the new record of 388.49 ppm in May 2008. This is 1.95 ppm higher than May 2007, 22% more than 1958 and 38% more than 1858. NASA's James Hansen warns the tipping point is 350! "This is the last chance" (June 24) More on page 10.

The biggest failure ever!

In 2008 State of the world from Worldwatch Institute former World Bank chief economist Nicholas Stern describes the changes now under way in Earth's atmosphere as "the greatest and widest-ranging market failure ever seen." It is an economic failure that "global economy is not prepared to cope with". See page 8-9

The big confusion ?

Oil and food prices have doubled and people are protesting. Some blame the sun for warming and other bio fuel for food prices. Burn more coal or nuclear? Eat meat or fish or? Our leaders seem confused with contradicting messages, if any , unable to understand. See page 4-6

USA increase military force!

The SIPRI 2008 year book showed the US military spending to be the highest since World War II. More on page 3

All time high fossil fuel!

BP has released their 2008 statistical review showing a 2.4% increase from 2006 to 2007 in world energy consumption but an even higher increase of fossil fuel with 2.7%. This is partly driven by the expanding China and India economies but also USA increased fossil fuel consumption with 2.1% compared to 1.7% for all energy consumption. But oil reserves are down! See page 2.

Midsummer in Sweden

Every year nature transforms to beautiful garden of Eden and a celebration of life, joy and love. See page 11-13 & Midsummer Special

Burning fossil electricity!

IEA monthly Electricity Statistics for February 2008 showed 3% increase compared to 2007 for OECD. And despite an increase of wind power production the total renewable production fell with 5% due to less hydro. The combustible fuel, mainly coal and gas increased with 6% in the rich OECD countries. The European Wind Energy Association believes wind will save us. More on page 7.

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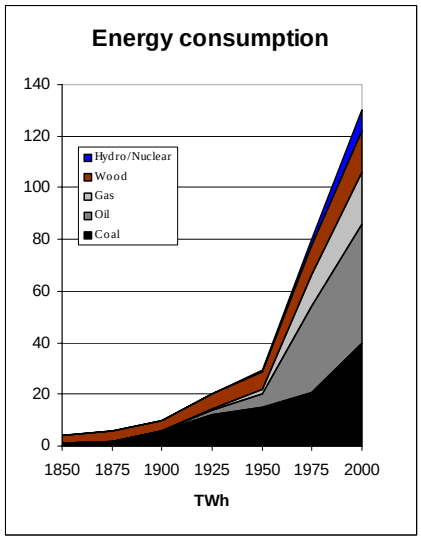
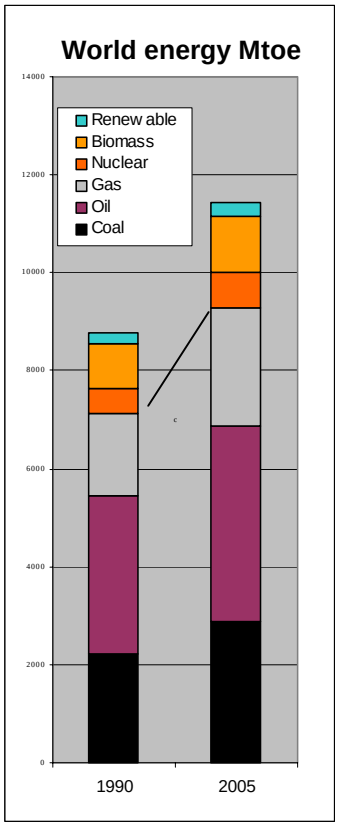


The black ages alarming trends

The coal was the fuel of industrialization during the 1800s. Oil became he fuel for the development of the New World in USA after the first world war and for Europe after the second world war. The exponential increase of the fossil fuel consumption was driven by a new life style – we lived in cities and we had cars. But this life style was still limited to a minority living in USA, Canada, Australia, Japan and western Europe – what we call OECD. Now this way of living is spreading to the emerging markets". At first just to low cost production to our shopping centers and then a growing upper and middle class with the same urbanization, shopping centers and cars. All requiring more energy.



2005 the 18% of the world population living in the rich OECD world burned the same amount as the 82% living in the "emerging markets." *Other = Geothermal, solar, wind, heat, etc. represent only 0.5% of the total primary energy in the world. The good news is that many OECD countries in Europe are investing in "green" alternatives. Bio fuel for cars and wind power for electricity production. The bad news is that the use of fossil fuel is increasing with more world wide, and not only in India & China but in OECD countries as USA & Japan.

The bad news is also that some "green" alternatives may not be sustainable at all. The ethanol production by corn in U.S. requires so much farmland and energy that efficiency is less than 25%. And the inefficient Hamburger culture with meat consumption is growing. There is no fast fix! "It is self evident dear Watson". We do have enough resources to live a good life in a peaceful world for even 10 billion people. But our earth cannot sustain our present over-consumption by few and an ego centered lifestyle with continuous growth of number of billionaires – What we call "freedom". There is a limit for what GAIA can tolerate. And we have already passed this limit but without removing poverty, starvation and AIDS for many!

Mtoe according to BP	Fossil	Nucelar	Hydro	Total 2007	Fossil	Nucelar	Hydro	Change 06/07
USA + Japan	2548	255	76	2879	2%	0%	-14%	1%
OECD other + Ex Soviet	3121	325	276	3723	0%	-4%	3%	0%
China + India	2113	18	137	2268	7%	11%	10%	8%
Emerging other	1986	23	220	2230	4%	-2%	2%	3%
World	9768	622	709	11099	3%	-2%	2%	2%

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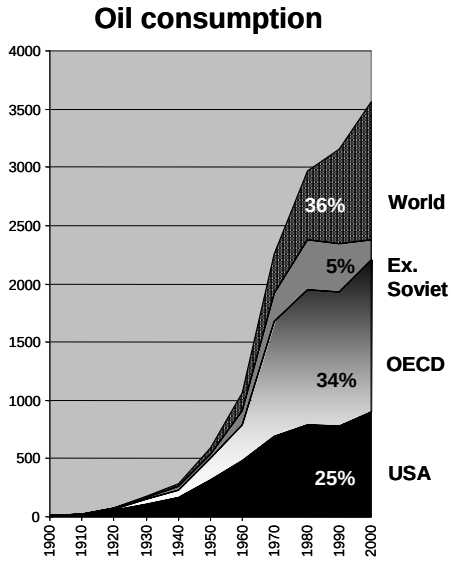
The war for the remaining oil?

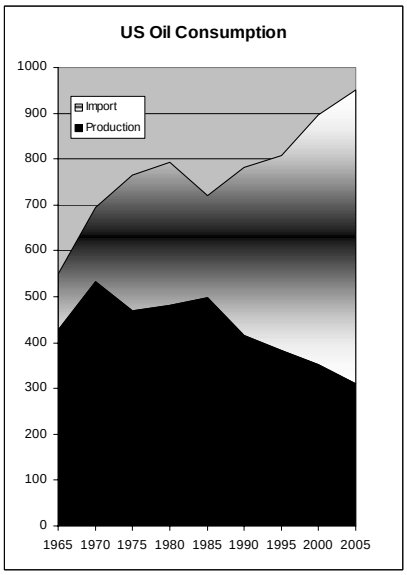


Oil is what makes our western world go around. The consumption of oil has increased 10 times since 2nd world war. The accumulated consumption from 1967 to 2007 was 125 Billon ton oil with 64% in the OECD countries.

Million tonnes oil	1967	1977	1987	1997	2007	TOTAL	Percent
OECD	1303	2046	1815	2146	2249	80210	64%
Other	461	902	1134	1287	1704	44723	36%
USA	596	866	765	848	943	32964	26%
Japan	123	260	209	265	229	9613	8%
China	14	82	102	196	368	5546	4%
India	15	26	47	87	129	2385	2%
World	1764	2949	2949	3433	3953	124933	100%

From BP statistical review of 2008 we can read that USA is now the biggest importer of oil followed by Europe and Japan. Middle East is the largest exporter of oil followed by former Soviet Union and Africa. Oil always has and is a reason for political intervention and war. The latest is Iraq. BP states that the world oil reserves is equal to 41.6 years but uneven distributed with 11.7 years for US reserves and 82.2 years for Middle East at present production rate.

Export/Import	Mtoe
USA	-603
Europe	-579
Japan	-237
China	-184
Other	-121
Middle East	960
Former Soviet	405
Africa	359
TOTAL	0



According to SIPRI Yearbook 2008 from June 8 the world military spending totaled $1339 billion in 2007, corresponding to 2.5% of world GDP and $202 per capita. This is a real-terms increase of 6% since 2006 and of 45% since 1998. The USA's military spending accounted for 45 per cent of the world total in 2007 Since 2001 US military expenditure has increased by 59 per cent in real terms, principally because of massive spending on military operations in Afghanistan and Iraq, and that USA now has military bases in all countries surrounding Iran, the next target to be "liberated". By 2007, US military spending was higher than at any time since World War II. USA and UK are the two largest representing 50% of total world military expenditure and more than 600 billion USD. Adding other NATO allied this is 20 times Russia!

The US invasion in Iraq has caused close to one million dead and years of terror. Thousands still try to escape this giant Abu Graib. Sweden is the country outside the region who has got the most number of refugees. The small Swedish city of Södertälje has received more refugees from Iraq than all of USA. And the terror for oil continues.

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Editorial – The big confusion

Oil prices has skyrocketed 2008. So has food prices. In Sweden we have had the warmest winter in 100 years. And the warmest National day. But globally we have had a cold winter and some are still even suggesting that the temperature is more controlled by the sun and not human activity. And this is off course true, but how about the rapid changes? Southern China had an unusual cold winter and now flooding besides "normal" earth quakes. California will have a new record season with wildfires due to the draught. And Greece, and Spain and ? So the weather is changing...as always. But no one knows exactly how. And is this related with the global warming?

So what is true? Our science and technology is based on reducing our reality to smaller and smaller parts to study the cause and effect. But our earth, GAIA with all it's interacting life forms can not be reduced to a formula. It is a very complex whole consisting of millions of eco systems. "A butterfly in China will influence the weather in Sweden." What we do know is that we use more fossil fuel and we emit more carbon dioxide. And this is influencing our earth significantly! It is all connected. And CO_2 emission is just ONE of the problems. We are using numerous resources and emitting numerous substances in a exponential speed. WWF is now warning that the Baltic Sea is without oxygen and dying. The cod and other fish is disappearing. The hamburger culture and the global meat factory is a significant green house gas producer – but also rice production. So what shall we eat? It is positive that more and more of us now realize the problem of global warming. But the real problem is that most of us do not realize how this is connected to our present unsustainable life style...in the rich world. The poor in Asia, Africa and Latin America – and even the poor in the rich world is still deprived from their basic needs – due to our greed and over consumption.

We are still locked in the same type of discussions we had 1972 at the first UN conference in Stockholm. We knew then about the negative effects of carbon dioxide, acid rain, depletion of resources, nuclear waste, the gap between the rich and the poor world etc. etc. But we just continued. Hiding our heads in the sand – looking for more oil. The future may name us "the black ages" . I have been working with technology in the global market all my grown up life. And based on this experience I am convinced that we have the technology and know-how to live a good, peaceful and sustainable life on earth – and with "we", I mean all of us and even 10 billion humans.

Our media is full of confusing messages. Shall we reduce tax on gas? Is bio fuel really good. Build more coal plants and store the CO_2 in the ground. Build more nuclear plant and store more atomic waste somewhere else? And what about the stock market and the loan crisis? But we avoid THE REAL PROBLEM: Our present life style based on consumption with exponential growth. It is an unsustainable and outdated model that can not give us all a common future. Our present leadership is unable to see this. THEY cannot solve our problems & create OUR common future. WE have to. All of us.

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Editorial (cont.) – What is in the media? – More confusion

Media report what we are saying? No - media report what THEY are saying! The people in power –economical, industrial and political leaders. In this order. The media is today a part of the establishment. Owned by a few and financed by advertisement – for us to consume more. Media is embedded in the same thinking as it should question. But it is good to consult the media to see what THEY are thinking. And finally our leaders are interested in what WE are saying and thinking? Since this is now being monitored by CIA (FRA in Sweden) who scan our e-mails and listen to our cell phones – as in 1984 by George Orwell. And few are protesting! What has happened to us?

Money and market is today what is guiding our leaders and media. Guiding us. We are playing the Monopoly game & sllot machines. The Financial Time June 11 quote. "Regulation model has failed" says Angela Merkel complaining about "The Anglo-Saxon" financial market rules. So the model is not wrong as long as it is not American? In an other article Gazprom think oil prices will double to 250 USD/barrel by next year. IEA complains about reduction in production and that therefore higher prices is needed (to produce more oil). So maybe it is good for oil prices to go up for production of more expensive oil. Like drilling under the polar cap when the ice melt. Oil also follows the present free world model. All humans all over the world shall pay the same – except USA where it is half price. Food is getting expensive because of this and hitting the already poor world.

IEA states according to Financial Times that production of bio fuels will increase to 1.4 million barrels per day end 2008. (Compared to oil 81,5 million barrels per day). US corn-based production of Ethanol has been criticized to be inefficient and increasing food prices. The International Food Policy Research Institute says that this increase is 30% But US officials states 3% and warn "That removing bio fuel from the energy chain would trigger even higher oil prices".

The Iberdrola (Spanish utility) executive chairman stated on page 13 "We must do everything possible to reduce dependence on oil" and refers to an IEA report saying that the world need to build 32 new nuclear power plants and 17 500 wind turbines every year. In the same issue the BP chief executive states "Let the market end the energy crisis" and "High prices are saying we need more investment – in efficiency and new production and energy sources". Martin Wolf is commenting on a new book by Jeffrey Sachs from Colombia University – Common Wealth – *Economics for a crowded planet*. He states that we need to achieve four goals: environmental sustainability, stabilization of world population, the end of extreme poverty and a new era of global co-operation. He says *"These are not utopian goals, but they won't be reached on our current trajectory and with our current economic thinking.*

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Editorial (cont.) – How everything is connected

Also in the same edition of Financial Times the World Bank issues warnings about the increased prices for oil and food combined with inflation in the poor countries. Other reports calls for more efficient food production in the developing countries – usually using more machines, oil and fertilizers. And the food from USA and EU is still cheaper since it is subsidized and in USA now allowing Gene Modified Crops. India and Canada has an idea to build more nuclear power plants in developing countries to get emission rights for more carbon dioxide.

So what is really happening? Nothing! It is the same "stupid white men" (Quote from Michael Moore) from the same rich western countries discussing the same methods as before. But the same model that created the problem can not solve it. We are locked within the same box and seem totally unable to think outside our dogmatic growth mantra. The amazing thing is that one of these men, Jeffrey Sachs do question the present economical thinking and do observe that mankind today is responsible for a ¼ of the carbon dioxide in the atmosphere (and rising) and 60% of the earth's nitrogen fixation, we use 60% of all rivers, we exploit 50% of the photosynthetic potential. we are responsible for mass extinction and alien plant invasions as well as over-exploitation of more than half of the worlds fisheries. Still he does not question our life style = the American life style. Everybody is looking for new technology to produce more energy so we can consume more.

Democracy and freedom of thought is a major achievement of our time compared to the earlier time of civilization. This was also the main difference between communism and capitalism. The Soviet version of communism collapsed and the American version of capitalism won. Few if any is longing back. But this "victory" has now been distorted to basically one global model with one way of thinking and one goal – consume and get happy as a novel by George Orwell with a common " Ministry of Truth" for news & entertainment" and a Ministry of Peace concerned with war (against terrorists and oil countries). There are no longer any alternatives and opposition. Not even in communist China. Many of us live with a material standard unimaginable to earlier generations. And some are more equal than others and the numbers and wealth of billionaires are exploding but a large part of the world is still starving and suffering from AIDS. We say that in order to develop the "emerging markets" we in the rich world have to become richer joined by an increasing number of billionaires in Russia, India, Brazil and China.

Today we are using mainly fossil fuel as energy source for our economic growth. This is what is causing the carbon dioxide emissions and global warming. But we see the same exponential growth of so much other substances and pollution. The question is not to replace fossil fuel with something else, nuclear, wind, biofuel. It is to find a new sustainable way of living. This can not be done by technology and economics – these are just means. And it is not done with a new global model. It has to start with us.

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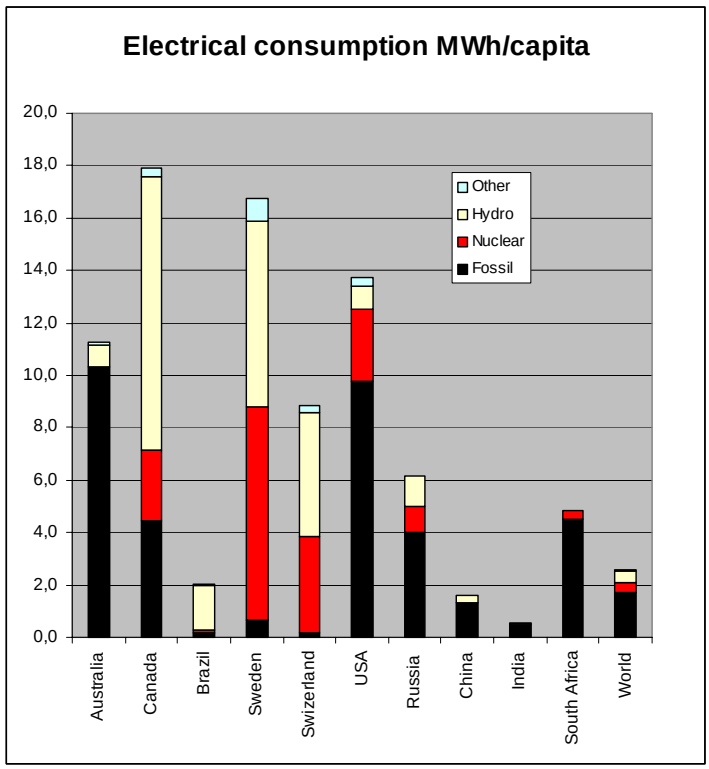
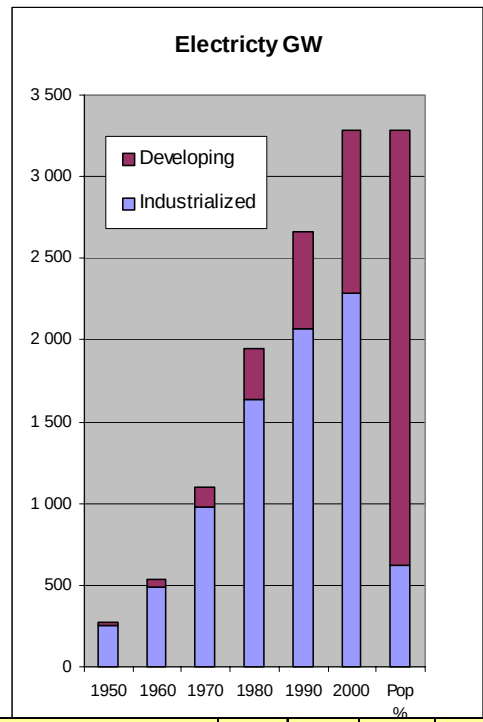
Electrifying the world

Electricity demand is increasing everywhere. But the actual electricity consumption varies a lot between different countries. The way electricity is produced varies also a lot between different countries. There are today basically four ways to produce electricity. Burning combustible fuels like coal, gas, oil and to some extent waste and biomass is the large part. Then hydro power and nuclear power. And finally alternative renewable sources like wind, geothermal and solar power. The European Wind Energy Association presented in March 2008 in their "Pure Power" report a scenario that EU would increase from 3% to 12-14% wind power by 2020 and more than 20% by 2030. That would require installation of 300 GW in wind power of which 50% off shore or approximately 150 000 wind turbines with a cost of 340 Billion Euros.





OECD TWh	07-feb	08-feb	Change	Change %
Combustible Fuels	518,4	549,6	31,2	6%
Nuclear	181,5	183,3	1,8	1%
Hydro/Geoth./Wind/Solar	129,5	122,9	-6,6	-5%
TOTAL OECD	**829,4**	**855,9**	**26,5**	**3%**

OECD TWh	2006	2007	Change
+ Combustible Fuels	6285	6566	281
+ Nuclear	2251	2185	-66
+ Hydro	1338	1306	-32
+ Geoth./Wind/Solar/Other	153	182	29
Tot OECD	**10027**	**10239**	212

OECD TWh	07-feb	08-feb	Change
+ Combustible Fuels	518,4	549,6	31,2
+ Nuclear	181,5	183,3	1,8
+ Hydro	115,6	105,9	- 9,6
+ Geoth./Wind/Solar/Other	14,0	17,0	3,0
= TOTAL OECD	**829,4**	**855,9**	26,5

The wind power production is increasing substantially but...the combustible fuels , mainly coal and gas were increasing much faster from 2006 to 2007 and continuing into the first month of 2008. And since the hydro power is decreasing the total renewable production has been decreasing the last 12 month!

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"The biggest market failure ever"

The main problem is not to replace oil and coal with something else but that we are consuming far too much of our common resources and causing far too much pollution. And this we can not "fix" with new technology or more of the same medicine. The Worldwatch institute has been presenting their "State of the world" since 1984. In their 2008 edition you can read this in the preface text:

".....former World Bank chief economist Nicholas Stern describes the changes now under way in Earth's atmosphere as "the greatest and widest-ranging market failure ever seen." It is an economic failure that the global economy is not prepared to cope with and that most of today's economic analysis is not able to understand. ....."

In a physically constrained world, material growth cannot continue indefinitely, and when that growth is exponential—and involves mega-countries like China and India—the limits are reached more abruptly and catastrophically than even the best scientists are able to predict. From falling water tables to soaring oil prices and collapsing fisheries, the ecological systems that underpin the global economy are under extraordinary stress. Economists who thought they could analyze the economic world as if it were separate from the physical world may have a hard time finding work in the years ahead.

Continued human progress—both material and spiritual—now depends on an economic transformation that is more profound than any seen in the last century. A world of limits will require a shift from the unfettered conventional economics that prevailed then to the emerging field of sustainable economics, which embraces many of the principles of market economics, including its ability to allocate scarce resources, while at the same time explicitly recognizing that the human economy is but a part of the larger global ecosystem that contains it.....

Shifting from the conventional economic paradigm to one based on ecological or sustainable economics will require years of change on many levels—from classroom theory to business practice and government policy.....

There is a great deal to be admired—and valued—about market economics in today's ever-smaller world. With so much to do in such a short time, efficient allocation of resources and motivating people to action are more important than ever. But twenty-first century economics must be grounded in a more realistic understanding of the physical and biological world on which we depend. As Albert Einstein once said, "We can't solve problems by using the same kind of thinking we used when we created them." This sentence should be posted on the walls of economics classrooms, corporate boardrooms, and the grand halls where the world's legislators make public policy. "

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The biggest market failure ever

Finally someone dare to question our holy consumerism and growth. In their 2008 edition you can also read this by Gary Gardner and Thomas Prugh:

"..... But growth (making an economy bigger) is not always consistent with development (making it better): the nearly fivefold expansion of global economic output per person between 1900 and 2000 caused the greatest environmental degradation in human history and coincided with the stubborn persistence of mass poverty."

They even dare to question the holy market: *....A third shaky axiom of conventional economic thinking is that markets are always superior to government spending and policies as economic tools. Markets are adept at generating vast quantities of private goods, but some of these—such as the dozens of redundant breakfast cereal choices—are of dubious social value. At the same time, markets do little to provide public goods such as parks and mass transportation. And although they help to allocate scarce resources "efficiently" across different products and modes of production, according to Tufts University economist Neva Goodwin, "the very definition of efficiency contains an acceptance of inequality." In economics, efficiency means allocating every resource to its highest value use, where value is defined mainly by purchasing power, so "a market works efficiently when the rich get a lot of what they want and the poor get just as much as they can pay for." Markets thus do little to ensure a just distribution of goods: those with the greatest wealth get the most, no matter that 40 percent of the global population lives in wrenching poverty.....*

Finally this American publication is touching the core of the problem. Our own life style, but. in the foreword Daniel C. Esty Professor at Yale University is stubborn hanging on to that market economy driven inventions will save us all:..... *State of the World 2008 makes it clear that our planet and every individual on it face substantial environmental challenges. From the buildup of greenhouse gas emissions in the atmosphere to significant water shortages and a wide range of pollution and natural resource management issues, the road to a sustainable economy is full of potholes. But there are signs of hope. As documented throughout this volume, the pace and scale of environmental innovation is extraordinary.... A number of CEOs are remaking their companies around this emerging "cleantech" opportunity..... This is not because he is a "do gooder" but because he believes that these markets offer the prospect of high growth and high margins..... How do we promote environment-related innovation? The answer is increasingly apparent: private-sector investment guided by carefully structured market-based incentives.*

In other words more of the same medicine from the same people who created the problem! When will they ever learn....

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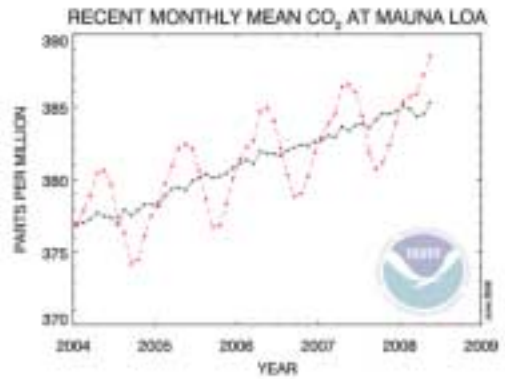
"This is our last chance"

The CO_2 concentration has been measured at Mauna Loa in Hawaii since 1958 when it was 317.45 ppm (Parts per million) and already far above the natural level of pre fossil burning time of around 280 ppm. What is alarming is not only the concentration but that the increase is increasing. From around 0.8 ppm per 1958 - 1968, and 1.2 ppm 1968 – 1978 to 1,9 between 1998 – 2008. From may 2007 to may 2008 the increase was 1.95 ppm to 388,49 ppm.



The Limits of growth published 1972 predicted 378 ppm year 2000 – a good estimate. So we have seen this coming for a long time. June 24, 2008 CNN reports on Dr. James Hansen testifying before the US congress 20 years after his first testimony 1988 that the world has long passed the "dangerous level" for greenhouse gases in the atmosphere and needs to get back to 1988 levels. He said Earth's atmosphere can only stay this loaded with man-made carbon dioxide for a couple more decades without changes such as mass extinction, ecosystem collapse and dramatic sea level rises. "We're toast if we don't get on a very different path,"...he told The Associated Press. "This is the last chance."

"We see a tipping point occurring right before our eyes," Hansen told the AP. "The Arctic is the first tipping point and it's occurring exactly the way we said it would."Hansen's analysis points to a 350 parts per million (ppm) CO_2 tipping point. We are already at 385 ppm and are increasing 2 ppm every year (we passed 350 ppm around 1990 and were at 320 ppm in 1960).

Hansen, a physicist by training, took a very practical tone with Congress. He said our goal is to stop letting CO_2 into the atmosphere. He argued that Russian and Saudi Arabia are going to sell their oil and that that CO_2 will end up in the atmosphere eventually. All the fuel efficiency in the world won't stop that. But the United States can stop the CO_2 in its coal from hitting the atmosphere. Coal "towers" over oil in terms of the amount available to burn (see graph next page). Congress itself is powered with a coal burning power plant. "Phasing out the use of coal except where the carbon is captured and stored below ground is the primary requirement for solving global warming" Dr. Hansen testified.

Longtime global warming skeptic Sen. James Inhofe, R-Oklahoma, citing a recent poll, said in a statement, *"Hansen, (former Vice President) Gore and the media have been trumpeting man-made climate doom since the 1980s. But Americans are not buying it."*

So the problem is that most "Americans are not buying it" and not even Hansen is questioning the root cause – the over consumption and massive pollution of our life style.

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Midsummer in Sweden

Without the Golf Stream the living in Sweden would be very different. But because of this warm stream and the long days in summer we can enjoy some days with temperatures over 30 degrees C. And in the winter we may have temperatures below 30 degrees C. This variation creates the same wonder every year when nature changes from grey and white to a colorful mosaic of trees and flowers full with singing birds and other animals – also shifting their color. Sweden has a large archipelago in the Baltic and a long coast, traditionally with plenty of fish. But this is now changing.

WWF presented in June a warning on the problem of oxygen depletion in marine and coastal areas as a growing concern. Over the last few years the number of known dead zones globally has increased from 44 in 1995 to 169 according to a recent report from the World Resource Institute (WRI). Another 246 areas are considered "vulnerable". The report also concludes that there is still insufficient information available to determine the real extent of the problem in many parts of the world. WWF notes that together with overfishing and climate change, the growing number of dead zones is among the biggest threats to the world's oceans in the 21st century. Around 4/5ths of the US coast and 2/3rds of Europe's coasts are now faced with excessive eutrophication. Experts also believe that there are yet more unexplored dead zones.

Marine dead zones are caused by eutrophication – a process where bodies of water receive excess nutrients, mainly nitrogen and phosphorus. Dissolved in the water, the nutrients act as fertilizers and thereby enhance plant growth. The dead zones occur when algae and other organisms die, sink to the bottom, and are decomposed by bacteria, using the available oxygen. Agriculture, human sewage, urban runoff, industrial effluent, and fossil fuel combustion are the most common sources of nutrients delivered to coastal systems. The yearly algal blooms is what we see as proof.

The Baltic Sea has paid a heavy price from decades of human activity in and around the sea – over-fishing, irresponsible shipping practices, physical exploitation and the pressures from agriculture and industry continue to negatively impact its sensitive environment. As a result, the Baltic is now one of the most threatened marine ecosystems on the planet. Almost 1/6 of the Baltic Sea is dead, an area larger than Denmark. Lennart Gladh at WWF call this an evil circle. With less oxygen the phosphorus stored for thousands of years in the bottom of the sea is released and this gies even more plant plankton. When they die more oxygen is used. This will affect all life in the sea. The cod disappears and is replace by herring living on animal plankton, so there is nothing left to consume plant plankton.

Just a remark. This problem with reduced oxygen in the Baltic Sea was described by Stig Fonselius in Stagnant Sea, 1970 and repeated in Limit of Growth 1972.

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Midsummer in Sweden

Tällberg by lake Siljan in Dalarna, Sweden is maybe the plcae most connected with Midummer celebration. The Tällberg Forum with 450 deligates from more than 70 countries particpated from June 25 to June 29 i a conference focusing on our global environment. A full-page advertisements were published simultaneously in the Financial Times, the International Herald Tribune, the New York Times, and in the Swedish papers Dalarnas tidningar and Göteborgs Posten, carrying the headline "<350". This figure relates to the upper limit for atmospheric Carbon Dioxide.

The message in the advertisements is directed towards nations involved in the negotiations leading up to and beyond the Copenhagen Climate Change Conference in December 2009. The advertisement was initiated by Bo Ekman, founder of the Tällberg Foundation, and is supported by the Stockholm Environment Institute and over 170 signatories, including a dozen of the world's leading environmental scientists, such as James Hansen, Robert Corell and James Lovelock.

The parts per million (PPM) of Carbon Dioxide (CO_2) in the atmosphere has long been a key indicator for climate change. Setting a PPM limit is one of the guiding principles behind the ongoing climate negotiations. Several proposals for an upper limit for CO_2 have come forward and until recently scientists estimated that the level could reach 450 PPM without threatening life on Earth. Until recently, scientific consensus set the safe zone to avoid the worst effects of climate change at 450 ppm. But today the latest science tells us the danger zone may already begin at 350 ppm. Catastrophic effects cannot be ruled out if levels above 350 ppm are maintained for a long time. We've gone too far. In a dangerous direction. We know enough now. To act now. To foresee and forestall any risk of massive and irreversible damage to the earth and all its inhabitants for generations to come, we must reduce atmospheric CO_2 to levels below 350 ppm.

"We are concerned that the negotiations are heading in the wrong direction," said Professor Johan Rockström, Executive Director of the Stockholm Environmental Institute. "The CO2 threshold under discussion is too high. Today, the scientific community has a pretty clear picture of how much CO_2 our atmosphere can sustain, and there is growing evidence that 350 PPM should be our target, rather than 450 PPM. Sadly, this has not yet been reflected in the negotiations."

The latest studies show that a 450 PPM level of CO_2 is expected to cause more than a one meter rise – and perhaps as much as a 3 meter rise – in the sea level during this century, and more than 20 meters over a longer period. The global mean temperature on Earth will increase by 2 degrees Celsius above pre-industrial levels, which carries enormous implications for global and regional ecosystems.

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Midsummer in Sweden – The message from Tällberg

We've gone too far. In a dangerous direction. We know enough now. To act now. To foresee and forestall any risk of massive and irreversible damage to the earth and all its inhabitants for generations to come, we must reduce atmospheric CO_2 to levels below 350 ppm. Scientific insights bring political responsibilities. We need leadership that respects the planetary boundaries of life. We, the signatories of this message from all continents, call upon all nations in the ongoing climate negotiations to adopt 350 as the target to be reached peacefully and deliberately, with all possible speed.

350 is one of our planet's boundary conditions. It should not have been transgressed. We must go back for a future: < 350!. 350 stands for the atmospheric concentration level of 350 parts per million (ppm) of carbon dioxide (CO_2). Current targets discussed by the climate negotiations are levels of carbon dioxide of 450 ppm and 2°C above pre-industrial global mean temperature as the safe upper limit to avoid catastrophic climate change. The business as usual path we are on will take us beyond both these targets in less than 30 years. To meet those targets will require our world to change dramatically.

However, new scientific conclusions make it clear these are the wrong targets: "The shocking conclusion I have reached, described in a paper written with several of the world's leading climate experts, is that the safe level of atmospheric carbon dioxide is no more than 350 ppm (parts per million) and it may be less. Carbon dioxide amount is already 385 ppm and rising about 2 ppm per year. Shocking corollary: the oft-stated goal to keep global warming less than two degrees Celsius (3.6 degrees Fahrenheit) is a recipe for global disaster, not salvation." These conclusions are based on paleoclimate data showing how the Earth responded to past levels of greenhouse gases and on observations showing how the world is responding to today's carbon dioxide amount."

Dr James Hansen is the director of NASA's Goddard Institute for Space Studies. He returns to Capitol Hill June 23, twenty years after he first alerted Congress to global warming caused by man-made greenhouse gas emissions. In the twenty years since, global carbon emissions have only increased, today more rapidly than ever – 3% per year. The simple, yes shocking, truth is that we have gone too far. We are going in the wrong direction and we have put planetary systems, all inhabitants and generations to come in grave peril. It is uncertain how long the planet can remain above the level of 350 ppm CO_2 before cascading catastrophic effects spin beyond all human control.

Therefore, we must go back. We must cut carbon emissions and draw down CO_2 below the level of 350 ppm. If we are to preserve the planet upon which civilization has developed, we have no choice but to make bold decisions that will change the way the world works – together.

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Fortune 500 – where the money and the power is!

1. Wal-Mart Stores
2. Exxon Mobil
3. Chevron
4. General Motors
5. ConocoPhillips

The same old solutions by the same old men
in the same old economy based on consumption;
– drill for oil in the Arctic and build more nuclear plants
The total revenue of Top 5 was 1.3 Trillion USD!

The recently released Fortune 500 over the largest American corporations had no surprises. The top 5 consisted of one supermarket (selling mainly imported Chinese consumer products), one car manufacturer and three oil companies with Exxon on the top, which earlier this year posted a $40 billion profit for 2007. This illustrates very good what is driving our world of today. The big worry is naturally gas prices and you can read the following stories in Fortune magazine (Posted on cnn. money.com).

"The combination of falling reserves and $100-plus oil is sparking a frenzy of oil and gas activity in Alaska the likes of which hasn't been seen since the state's initial oil boom more than three decades ago. ConocoPhillips (COP, Fortune 500), Alaska's biggest producer and America's third-largest oil company, is spending huge sums to re-explore old stomping grounds like the North Slope. The company is also investing in heavy-oil technology and early preparation for a proposed $30 billion natural gas pipeline. "We think the Arctic is the new frontier," says Conoco CEO Jim Mulva, "and it's not just in Alaska. The potential exploration opportunities go all the way around the Arctic Circle." The excitement extends even farther north, where the shrinking ice cap is helping spur a new race for territorial supremacy. In August, Russia planted a flag 2 1/2 miles below sea level at the actual North Pole, laying claim to what it says are vast quantities of oil and gas. Some experts estimate that a quarter of the planet's undiscovered energy resources are buried at the top of the planet."

"The case for nukes", another article in Fortune brings back the old "solution": "Nuclear energy doesn't produce the air pollution that burning coal does, and even waste products are recyclable, though it hasn't been done thanks to an also potentially shortsighted Carter-era decision to ban it over fears of nuclear terrorism. Although the ban has been reversed, the fears still linger. But irrational fear of improbable safety breaches is responsible for most opposition to nuclear power in this country. The unlikely culprit? Pop culture. We've seen "The China Syndrome," and we worry that nuclear-reactor employees may be bumbling Homer Simpsons, capable of accidentally pushing the red button. Are there downsides? Yes. Nuclear waste has to be stored somewhere, and consistent with human behavior since the beginning of time, no one wants it in his own backyard. But at some point we have to weigh the necessity of energy independence against the cost of uncomfortable fixes like nuclear energy... - we may find that we have no choice. We can't afford to be afraid anymore."

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Yes there is a food and environment crisis

Food Crisis, Climate Change and the Importance of Sustainable Agriculture

By Martin Khor, Director, Third World Network
Presentation at FAO Food Security Summit, Rome 4 June 2008

"The current global crisis of high food prices, and of shortages in some countries, has given prominence once again to food security concerns. In recent years there was complacency about food security and national self-sufficiency, as it was thought that cheaper imports would be always or usually available, and local food production was not so necessary as previously thought. Many developing countries reduced food production, many of them under advice of the international financial institutions....."

.... According to the IPCC, the agricultural sector annually emits 5.1 to 6.1 billion tonnes of carbon dioxide equivalent in 2005. Of these, (1) methane (which has 20 times more global warming potential than carbon dioxide) accounts for 3.3 billion tonnes equivalent; (2) nitrous oxide (which has 300 times greater global warming potential than carbon dioxide) accounts for 2.8 billion tonnes annually; and (3) carbon dioxide emissions are 40 million tonnes. . (ITC 2007). This represents 10-12% of total greenhouse gas emissions.

Of the direct emissions, the main forms are: (1) nitrous oxide emissions from high nitrogen levels in the soils from synthetic fertilizers (2.128 billion tonnes), which are mainly associated with nitrogen fertilizers and manure applied to soils. Fertilisers are often applied in excess and not fully used by the crop plants, and some of the surplus is lost as nitrous oxide to the atmosphere; (2) enteric fermentation of cattle (1.792 billion tones); (3) biomass burning (672 million tones); (4) rice production (616 million tones), (5) manure handling (413 million tonnes). (Greenpeace 2008).

According to current projections, total greenhouse gas emissions from agriculture will reach 8.3 billion tonnes of carbon dioxide equivalent in 2030, compared to the current level of about 6 billion tonnes (ITC 2007).

Agriculture also contributes indirectly to emissions, through the following:
(1) The production of fertilizers is energy intensive and adds 300-600 million tonnes of carbon dioxide equivalent per year, or 0.6 to 1.2% of total greenhouse gas emissions. The greatest source of emissions from fertilizer production is the energy required, which emits carbon dioxide. With the intensification of agriculture, the use of fertilizers has increased sharply."

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Yes there is a way to sustainable food

A report by the International Trade Centre and FIBL (Research Institute of Organic Agriculture, Switzerland) provides a detailed assessment of the benefits of organic farming regarding climate change. A summary of the benefits are as follows:

• Organic agriculture has considerable potential for reducing emissions.
• In general it requires less fossil fuel per hectare and kg of produce due to the avoidance of synthetic fertilizers. Organic agriculture aims to improve soil fertility and nitrogen supply by using leguminous crops, crop residues and cover crops.
• The enhanced soil fertility leads to a stabilization of soil organic matter and in many cases to a sequestration of carbon dioxide into the soils.
• This in turn increases the soil's water retention capacity, thus contributing to better adaptation of organic agriculture under unpredictable climatic conditions with higher temperatures and uncertain precipitation levels. Organic production methods emphasizing soil carbon retention are most likely to withstand climatic challenges particularly in those countries most vulnerable to increased climate change. Soil erosion, an important source of carbon dioxide losses, is effectively reduced by organic agriculture.
• Organic agriculture can contribute substantially to agro forestry production systems.
• Organic systems are highly adaptive to climate change due to the application of traditional skills and farmers' knowledge, soil fertility-building techniques and a high degree of diversity.
• The study concludes that: "Within agriculture, organic agriculture holds an especially favourable position, since it realizes mitigation and sequestration of carbon dioxide in an efficient way… Organic production has great mitigation and adaptation potential, particularly with regard topsoil organic matter fixation, soil fertility and water-holding capacity, increasing yields in areas with medium to low-input agriculture and in agro-forestry, and by enhancing farmers' adaptive capacity. Paying farmers for carbon sequestration may be considered a win-win-win situation as (a) carbon dioxide is removed from the atmosphere (mitigation); (b) higher organic matter levels in soil enhance their resilience (adaptation), and (c) improved soil organic matter levels lead to better crop yield (production).

So there are two different roads to the future. We can continue as today with large scale food factories with gene modified crops and cattle so we can continue our Hamburger culture. Just increase the productivity even more. Or we could "go back to the future" both when it comes to farming it self and what we eat. A sustainable way for improved health of both humans and GAIA. But the second healthy way has one big draw back. It does not follows our present religion of exponential growth. The big advantage is however that it will give us a second chance to common future.

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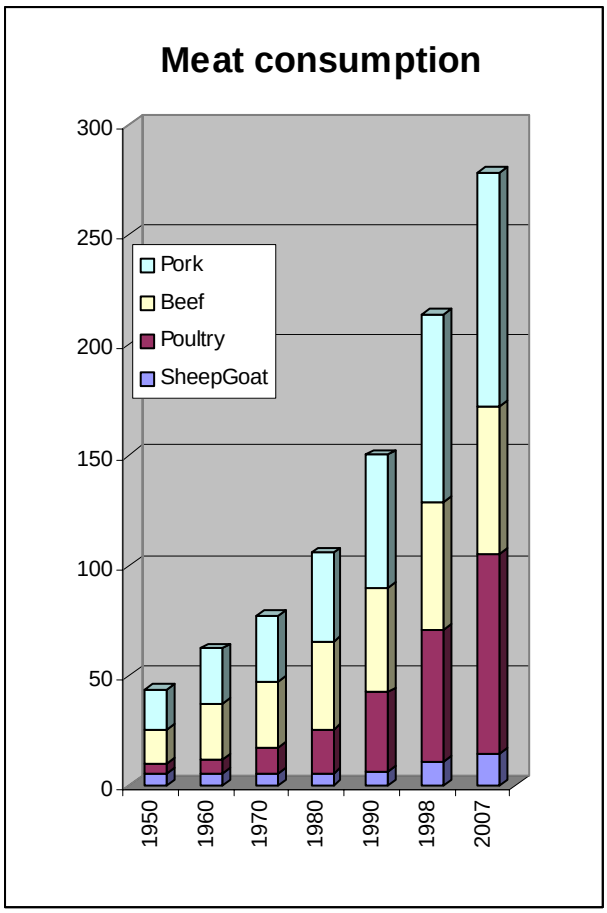
But the Hamburger culture is not

Cheeseburger with French fries and coke is the western style fast food that has conquered the world. This is not only unhealthy to man it is unhealthy to GAIA. The reason is that the production of meat including feed to cattle from corn, oil from Soya beans, transportation of food to McDonalds and transportation of people to and from McDonalds drive in will generate a lot of carbon dioxide emission.

The per capita meet consumption in the world has increased from 18 to 40 kg from 1950 until today. The total consumption from less than 50 Million 1950 to almost 300 million tons 2007. Consumers in industrial nations eat more than 80 kilograms of meat per person, most of it from pork and poultry, compared with just 28 kilograms for people in developing countries. In fact, people in industrial nations eat three to four times as much meat as people living in developing countries.



Since the early 1960s, the number of livestock has increased 60 percent, from 3 billion to more than 5 billion, and the number of fowl has quadrupled from 4 billion to 16 billion.12 Industrial feedlots are the most rapidly growing production system for these animals, producing 43 percent of the world's beef and more than half of the world's pork and poultry.

These "factory farms" are also responsible for huge amounts of manure and air pollution and for the overuse of antibiotics as crowded conditions encourage the rapid spread of disease. Producing meat requires large amounts of grain—most of the corn and soybeans harvested in the world are used to fatten livestock. 14 Producing 1 calorie of flesh (beef, pork, or chicken) requires 11–17 calories of feed. Meat recalls, foot-and-mouth disease, and mad cow disease (BSE—bovine spongiform encephalopathy) as well as bird flu have increased concerns about the safety of eating meat.

SOurce: Danielle Nierenberg and FAO

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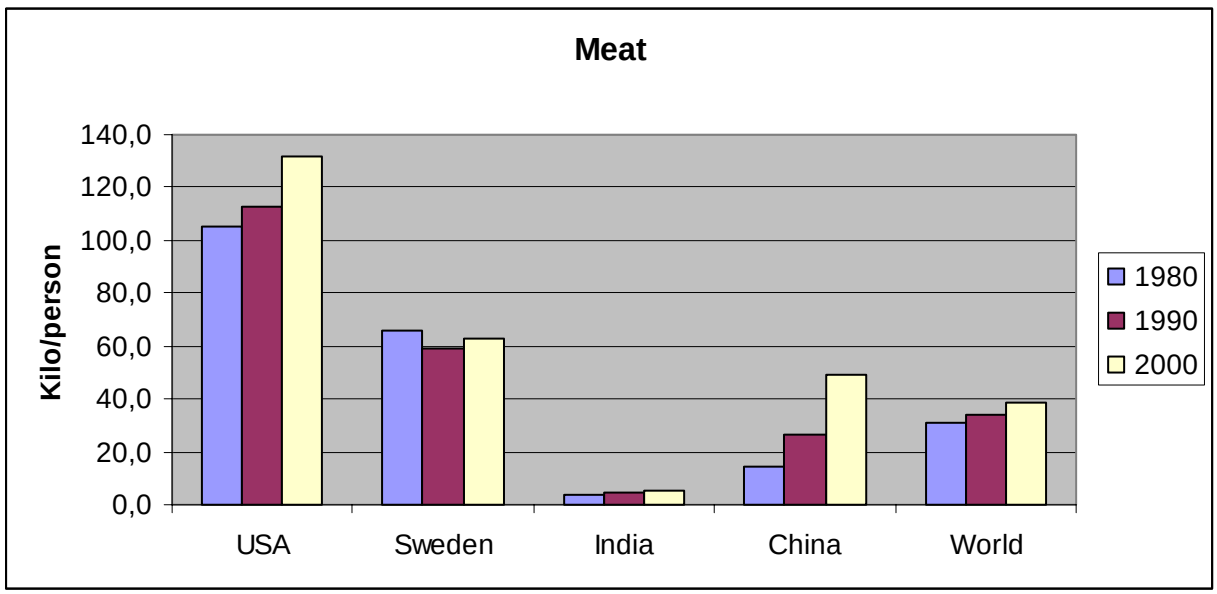
And the poor are still starving

The State of Food and Agriculture 2007 from UN/FAO say the following:
"Despite unprecedented global economic growth, 1.1 billion people continue to live in extreme poverty and more than 850 million people suffer from chronic hunger while ecosystems are being threatened as never before.....Services provided by ecosystems are essential, not only for poverty reduction, but indeed for human survival. The Millennium Ecosystem Assessment, as well as reports arising from other more recent studies such as Water for food, water for life (Comprehensive Assessment of Water Management in Agriculture, 2007) and Livestock's long shadow: environmental issues and options (FAO, 2006a), have painted a stark picture of current ecosystem degradation and the potential consequences of a continuation of current trends."

Agricultural ecosystems are by far the largest managed ecosystems in the world. Of the total land area of about 13 billion hectares, crops and pasture occupy almost 5 billion hectares. Forests and woodlands add another 4 billion hectares. Inland, coastal and marine fisheries ecosystems also generate crucial services for humans.

So how can we secure food for a population growing to 10 billion? We can see exactly the same difference for food as for energy between the rich OECD countries and the "emerging markets". The US production and consumption is based on meat with high degree of fat. Meat production requires much more energy and release much more pollution compared to cereal and vegetables. In many parts of Asia people have been vegetarians. But with the second "cultural revolution" in China the Hamburger culture is now in rapid growth. even in India meat consumption is increasing. Still the difference is huge as seen from meat per capita below. But imagine.....



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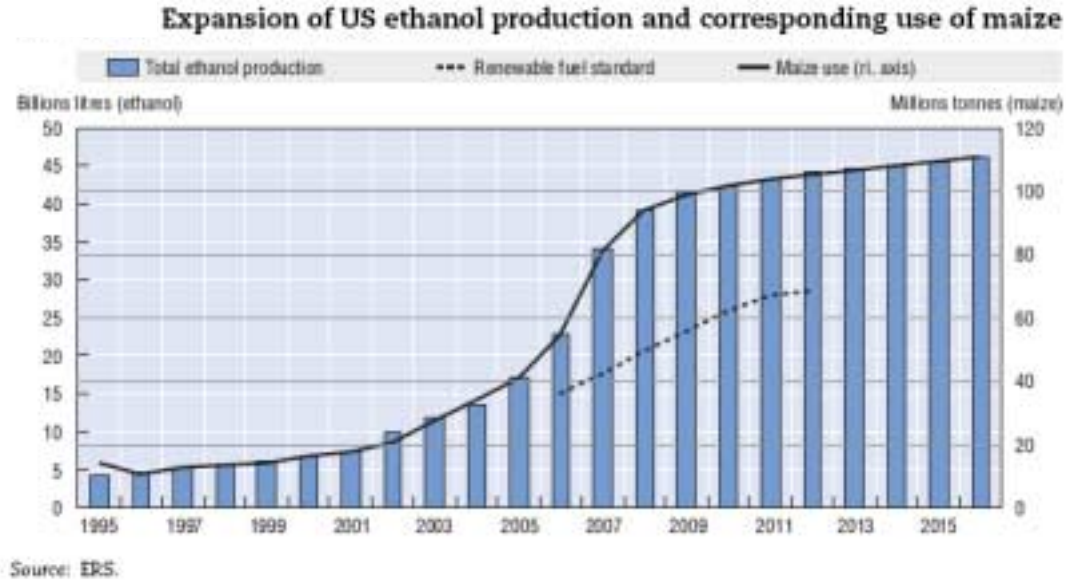
Fuel and food - Everything is connected

Yes the conclusion is the same – everything is connected. If we drive to the supermarket to buy more gadgets and to our jobs to print more memos, fly on vacation, put on the air conditioning, eat more Hamburgers and drink more Coke we consume more and more and more. And it does not get better if we need to go to the Gym, the shrink and the lawyer. Because also they consume. We cannot have the cake and eat it. If we are going to reduce the present devastating attack on our environment we have to review our complete life style and reduce our consumption pattern significantly. In a way we have to come back to a level about 50 years ago if we are going to allow the rest of the world population to escape from poverty and starvation. But we still can live a very pleasant life if we use our advanced technology in harmony with GAIA. However - we need to change our addictive behavior, become creative instead of a consumer. We can even work less than today. This means we may have less money to buy things but more time to live. We need to redefine our way of living on a sustainable level.

But this is not happening. The high oil prices is not triggering our leaders and most people to review our way of living. Instead we are discussing to lower tax on gas and drilling for oil in the Arctic regions. In my home country Sweden most people are concerned about the environment. And many including myself drive an Ethanol fueled car which is better than oil. But bio fuel does not solve the problem. The Ethanol production in large scale is not sustainable. And it is competing with food. The US production based on corn does not reduce carbon dioxide emission – it is done to become less dependent on imported oil. So we are using fertilizers to grow corn to feed our beef and make ethanol so we transport it. So utterly inefficient and stupid.



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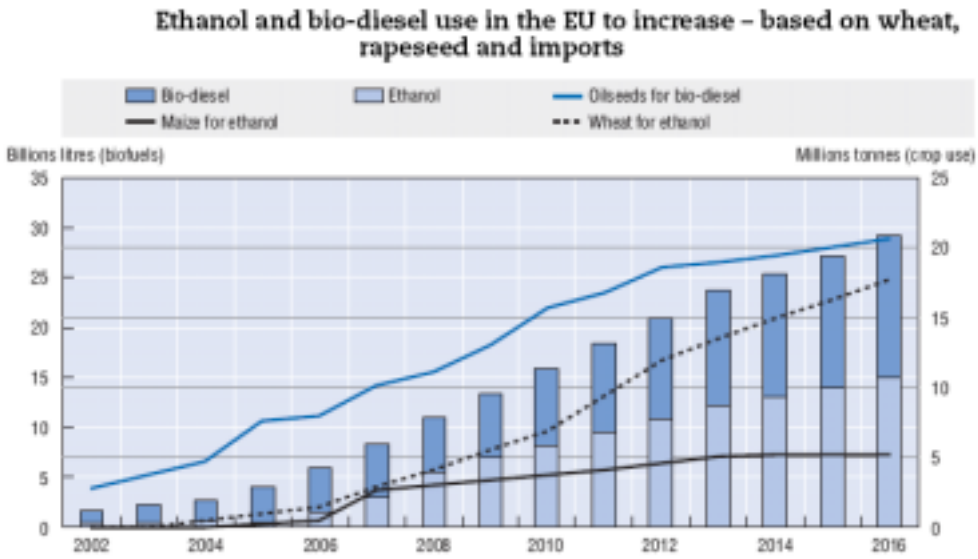
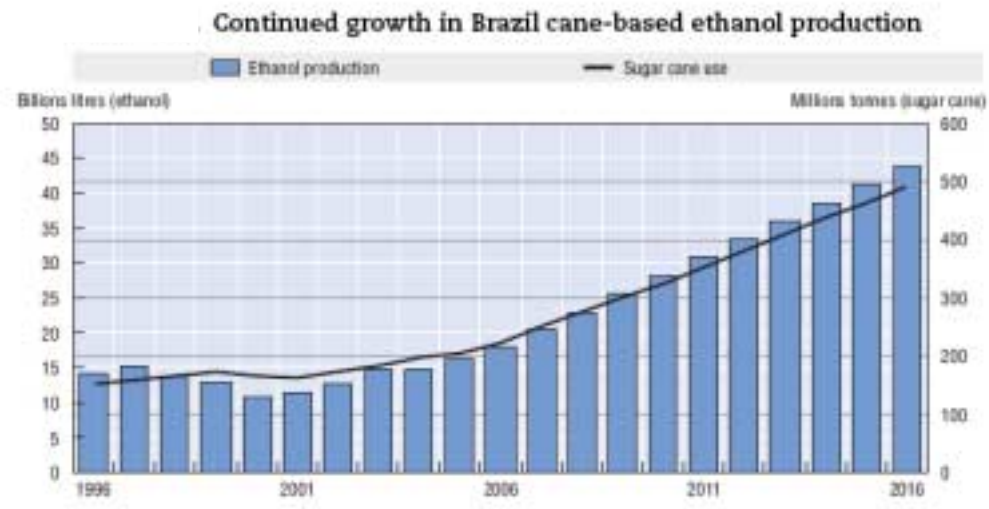
Fuel and food - Everything is connected

Brazil started ethanol productions for cars during the military dictatorship also for the same reason to become less dependent on imported oil. The advantage compared to USA and EU is that sugarcane is more efficient for production than corn (maize), Soya , grapes or wheat. So Brazil is now a net exporter of ethanol – but is also using oil. Brazil has been fortunate to discover even more oil. And is one of the worlds largest meat producer that is one of the reasons for deforestation. Brazil could be an environmental Garden of Eden, and it do have a low CO_2 emission but it is caught in the same dilemma. A large poor population and a growing middle class in the cities with a western life style. So even more people move to the cities to consume.





Source: OECD and FAO Secretariats.

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Yes there are alternative thinking also in USA

Dario Hildago at the USA based World REsources Institute present an interesting proposal at their webpage June 27. “Making High Gas Prices Less Painful”:

With gas prices hovering around $4 a gallon, many Americans are feeling uneasy about the future. And for good reason. Higher prices at the pump channel money away from things that improve our quality of life, like health care, education, and leisure activities. So far, the response from politicians on Capitol Hill has been anything but inspiring. Many politicians have disingenuously claimed that we don’t need to change our behavior and can “drill our way out of this problem.” Or that we can apply enough pressure on oil-rich countries, who will then turn against their own self-interests and ramp up production. Or that high fuel standards and alternative fuels like ethanol, which just suffered a huge setback with the Iowa floods, will make all our problems go away. The following three ideas, if implemented, will have the added value of reducing carbon dioxide emissions, improving public health, curtailing over-consumption, and providing a structural change that can be sustained over the long term:

***Build high-density, mixed-use cities**: The vast majority of American cities are built for cars, which creates a sprawling, low-density landscape where people spend too much time and money driving to conduct their daily activities. Cities built around people and walking as opposed to cars and driving have single-family housing, apartments, grocery stores, office space and shops all within walking distance, eliminating the daily need to get behind the wheel.*

***Invest in Mass Transit:** Americans are flocking to mass transit in ever greater numbers. At 10.3 billion trips last year, mass-transit ridership in the United States is at its highest level since 1957. To match this growing demand, cities should invest money to maintain and expand their mass-transit systems. One practical way to do this is to charge car drivers for using the most congested roads and use this revenue to fund mass-transit projects and operations. London, Singapore, and Stockholm all have wildly successful congestion-pricing programs that are, counter to conventional wisdom, popular among residents.*

***Invest in Cycling Facilities:** Increasingly, cycling is becoming popular among commuters making short trips around cities. But the spike in the number of city cyclists has yet to be followed by a supply of cycling facilities like bike lanes and bike parking. ...By building special cycle lanes that are physically separated from traffic, cities can make cycling a viable, low-cost form of transit. Cycling can also be instrumental in countering chronic diseases like diabetes and obesity, which are now afflicting large swaths of the sedentary American population.*

All good ideas and I live in a country (Sweden) with cycling, mass transit and much less fossil fuel consumption compared to USA (at twice the price) , but...it is still not enough.

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Re-reading some of early warning from 1972

The Limit of Growth published by the Club of Rome 1972 was based on a computer model of the world with the capacity and data of that time. Some of the predictions were wrong and the book was heavily criticized. But the analysis of the unsustainable exponential growth has proven very right. Their prediction of carbon dioxide year 2000 is almost right on spot.

Since I at this time finished my Master of Engineering Degree in Electric Power Engineering, also studied the new subject of Environmental Technology at the University and participated as environmental activist during the UN conference in Stockholm, I did read (and write) a lot of what was available 1972. When I now read this material gain I am astonished on how much we knew already then.

The Swedish scientist Arrhenius had already 1903 discovered the relationship between carbon dioxide and the green house effect. Göran Person described this 1969 in the book I used for my University Studies and he wrote that the stored fossil fuel on earth was twenty times what was stored in the atmosphere.

In Only One Earth from 1972 the authors wrote *"At present rates of use (of fossil fuel), the earth's temperature could rise by 0.5 degree C by the year 2000. ...Fossil fuel demands in the early decades of the next century... increase the emission of CO_2 into the atmosphere and by doing so bring up average surface temperature uncomfortable close to that rise of 2 degree C which might be set in motion the long-term warming-up of the planet....It is not therefore irrational to wonder whether a massive man-induced increase in the atmosphere's CO_2 coinciding with one of natures' own warming-up might not change a slight move at the centre of the seesaw into a violent shifting of weight and the risk of major and unpredictable global consequences"*

The Energy Crisis from 1972 had some early predictions incorrect but their ending statement concludes, water shortage (2000), nuclear age (2010). world population 10 billion with all usable land occupied by cities and farms.(2020) *A hotter world climate due to the "green house effect" of increasing atmospheric carbon dioxide. Massive and unpredictable environmental consequences."*

This was some of what was written 1972, the year of the first UN conference on the environment in Stockholm – 36 years ago.

Press stop June 28. USA is considering to remove ANC and Nelson Mandela from the terrorist list as a gift from President Bush on Mandela's 90th birthday! Better late than never!