GAIA Newsletter – August 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 endanger 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.

Increased CO_2 increase!

Mauna Loa in Hawaii showed a change from August 2007 to August 2008 with 2.29 ppm. This is a higher increase compared to earlier. The average level is up to almost 386 ppm compared to 316 at 50 years ago 1958. This is a 22% increase. Read more on page 12.

Our personal dilemma

In end of August we traveled to USA to see my sons family and some old friends. As described in the July newsletter this will cost each person about 1000 kilo of CO_2 just to fly there and back. Then we have the local traveling, consumption of food, electricity etc. What are realistic limitations. Read more on page 20.

What causes a hurricane?

When we visited USA we managed to do so between Gustav and Ike. Naturally all media were full of news about the hurricanes. But nothing about the real cause. The global warming causing more dangerous storms is just one of consequences. Well basically nothing was said about the environment any longer in the media . Because the republicans were to select their vice president. And she was a woman. Read more on page 13.

Comparing life styles

USA has the highest carbon based energy consumption in the world both as a country and per capita. But USA is many different states. I have lived several years in California, my son & his family lives in Texas and our friends have moved to north-western Washington, across the water from Canada. Comparing these three states there are similarities..and big differences. Read more on page 5.

The new world order

U.S. president is the most powerful man (or woman) in the world. But only U.S. citizens (and not all) can vote. So what is important for the U.S. voter? Read more on page 14.

The US energy trend

The energy consumption in USA continuous to increase and so does the CO_2 emission. There are no signs that this will change. And the most alarming is that this is not even discussed. The only related issue is the price of gas. Most people think it is too expensive – still it is about half as in Europe. The wind production today is less than 0.5% of the total energy. Read more on page 2.

GAIA Newsletter – August 2008

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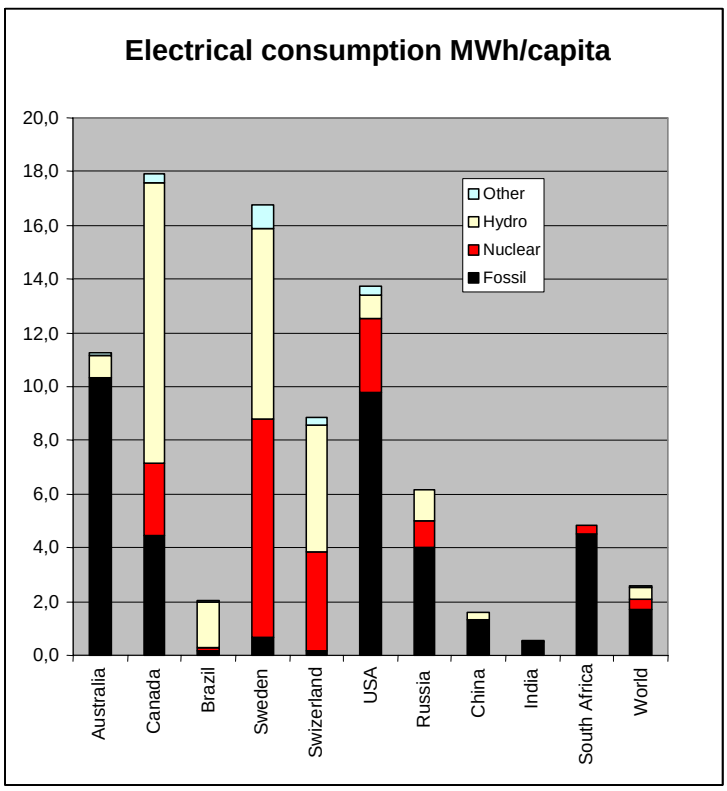
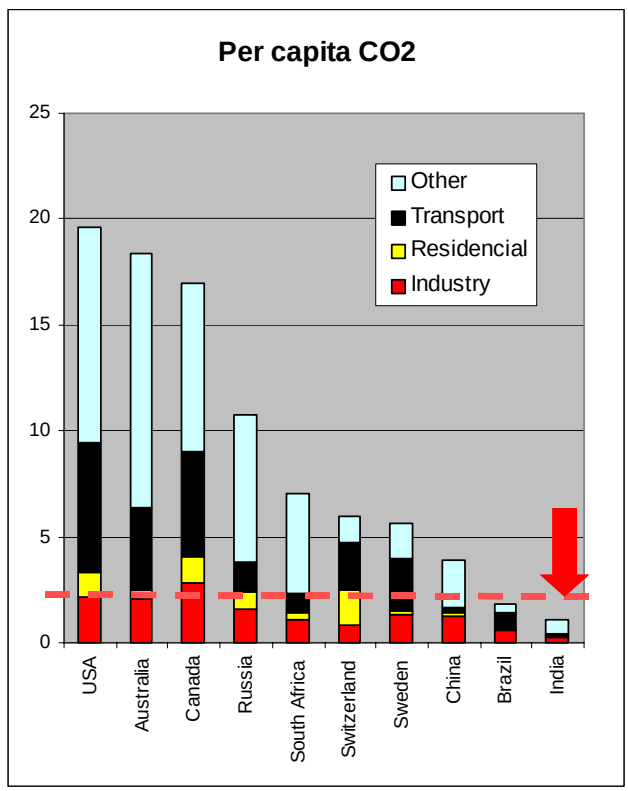
The US energy trend

The energy consumption in USA has always been the highest in the world even though China is catching up. Canada and Sweden are two of the world leaders in electricity but fortunate to have hydropower but less fortunate to have nuclear power since also this is also a long term environmental problem. However since the use of fossil fuels (gas, gas, oil) is dominant for generation of electricity the US per capita emission of carbon dioxide is the highest in the world. The U.S. emission is right now nine (9) times the capability of the earth eco system as a per capita level. So it is very easy to understand that if the whole world would copy this life style we would be toasted.

About half of our carbon dioxide emissions will stay in the atmosphere for many years. That is why the concentration is continuously rising. If we calculate the accumulated emissions of CO_2, USA alone is responsible for almost 30%. So we are carrying our history with us.

The 80% majority of the world living in the developing countries or as we call them emerging markets such as China, Brazil and India are now copying our western consumer based life style. And since India, China, Africa and most of Latin America today have a per capita level that is just a fraction of the US or Australian level – this development is furthermore accelerating the emissions and the threat for global warming. We cannot stop these countries for increasing from today's low level. But we can stop them to reach ours by changing our own life style, technology and energy consuming model. If we do not change but on the contrary continue to increase energy consumption and pollution such in USA, Australia and Canada – why should anyone else care? We will go down together!





GAIA Newsletter – August 2008

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The US energy trend is still increasing

The energy consumption in USA continuous to increase and so does the CO_2 emission. This is despite the fact that the Industrial production is decreasing the emissions – partly because of cleaner and more efficient technology but most probably mainly because of the "export" of production to China, India and other low cost countries. Transportation is the fastest growing sector for CO_2 pollution. And despite of more imports the production is increasing. Looking at the first 5 months of 2008 the energy production increased from 2006 and 2007 values. The wind production for 2007 was 0.319 compared to total 71.668 or less than 0.5% of total energy production (and even lower compared to consumption).

Table 1.2 Primary Energy Production by Source

(Quadrillion Btu)

	Fossil Fuels					Nuclear Electric Power	Renewable Energy[7]						Total
	Coal[8]	Natural Gas (Dry)	Crude Oil[9]	NGPL[10]	Total		Hydro-electric Power[6]	Geo-thermal	Solar/ PV	Wind	Bio-mass	Total	
1973 Total	13.992	22.187	19.493	2.569	58.241	0.910	2.861	0.043	NA	NA	1.529	4.433	63.585
1975 Total	14.989	19.640	17.729	2.374	54.733	1.900	3.155	.070	NA	NA	1.499	4.723	61.357
1980 Total	18.598	19.908	18.249	2.254	59.008	2.739	2.900	.110	NA	NA	2.475	5.485	67.232
1985 Total	19.325	16.980	18.992	2.241	57.539	4.076	2.970	.198	(s)	(s)	3.016	6.185	67.799
1990 Total	22.488	18.326	15.571	2.175	58.560	6.104	3.046	.336	.060	.029	2.735	6.206	70.870
1995 Total	22.130	19.082	13.887	2.442	57.540	7.075	3.205	.294	.070	.033	3.102	6.703	71.319
1996 Total	22.790	19.344	13.723	2.530	58.387	7.087	3.590	.316	.071	.033	3.157	7.167	72.641
1997 Total	23.310	19.394	13.658	2.495	58.857	6.597	3.640	.325	.070	.034	3.111	7.180	72.634
1998 Total	24.045	19.613	13.235	2.420	59.314	7.068	3.297	.328	.070	.031	2.933	6.659	73.041
1999 Total	23.295	19.341	12.451	2.528	57.614	7.610	3.268	.331	.069	.046	2.969	6.683	71.907
2000 Total	22.735	19.662	12.358	2.611	57.366	7.862	2.811	.317	.066	.057	3.010	6.262	71.490
2001 Total	23.547	20.166	12.282	2.547	58.541	8.033	2.242	.311	.065	.070	2.629	5.318	71.892
2002 Total	22.732	19.439	12.163	2.559	56.894	8.143	2.689	.328	.064	.105	2.712	5.899	70.936
2003 Total	22.094	19.691	12.026	2.348	56.157	7.959	2.825	.331	.064	.115	2.815	6.149	70.264
2004 Total	22.852	19.093	11.503	2.466	55.914	8.222	2.690	.341	.065	.142	3.011	6.248	70.384
2005 Total	23.185	18.574	10.963	2.334	55.056	8.160	2.703	.343	.066	.178	3.141	6.431	69.647
2006 Total	23.790	18.993	10.801	2.356	55.940	8.214	2.869	.343	.072	.264	3.324	6.872	71.025
2007 Total	23.501	r 19.817	RE 10.721	r 2.409	r 56.448	8.415	2.463	.353	.080	.319	r 3.589	r 6.805	r 71.668
2008 January	2.023	E 1.757	E .916	.205	4.900	.738	.222	.028	.006	.037	.311	.605	6.242
February	1.918	E 1.667	E .860	.196	4.642	.678	.201	.026	.006	.032	.293	.558	5.877
March	R 1.985	E 1.799	E .924	.212	R 4.921	R .675	R .227	R .029	.007	R .041	R .312	R .616	R 6.211
April	F 2.009	RE 1.727	E .898	.209	RE 4.843	F .593	RF .227	R .028	.007	RF .046	R .313	RE .621	RE 6.056
May	F 2.000	E 1.785	E .929	.219	E 4.933	F .670	F .255	.029	.007	F .045	.325	E .662	E 6.265
5-Month Total	R 9.936	R 8.734	R 4.527	1.040	R 24.238	R 3.353	R 1.132	.141	.034	R .201	1.554	R 3.061	R 30.652
2007 5-Month Total	9.753	E 8.025	E 4.509	.974	23.261	3.400	1.181	.144	.033	.140	1.446	2.944	29.605
2006 5-Month Total	9.908	7.771	4.465	.960	23.103	3.324	1.351	.138	.030	.115	1.346	2.979	29.407

Figure 4. Primary Energy Consumption by Source

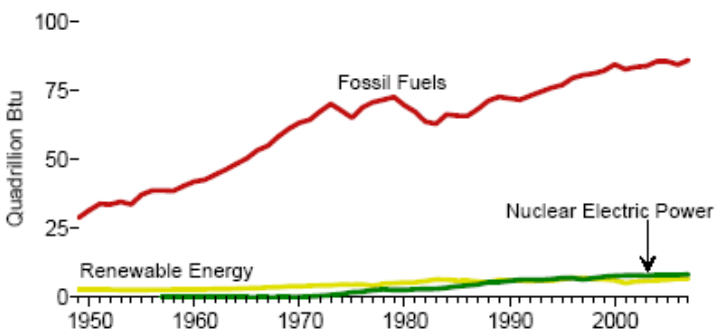
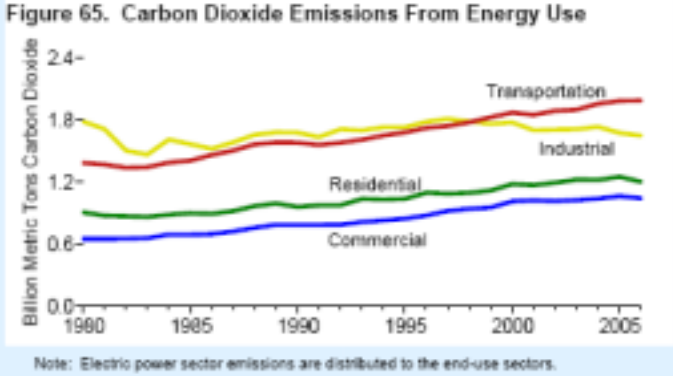


Figure 65. Carbon Dioxide Emissions From Energy Use



Note: Electric power sector emissions are distributed to the end-use sectors.

GAIA Newsletter – August 2008

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The US energy consumption

I was born 1949. From this year the energy consumption in USA has increased from 31.982 to 101.600 – More than 3 times. The renewable energy was 9% 1949 and now reduced to 7%. The renewable energy is decreasing in percent! The fossil fuel is increasing. NOW! Because 1990 the renewable consumption was higher than 2007! Wind power production is equal to only 0.3% of total energy consumption. Has no-one understood anything?

(Quadrillion Btu)

Year	Consumption [2]			
	Fossil Fuels [10]	Nuclear Electric Power	Renewable Energy [5]	Total [11]
1949	29.002	0.000	2.974	31.982
1950	31.632	.000	2.978	34.616
1955	37.410	.000	2.784	40.208
1960	42.137	.006	2.929	45.087
1965	50.577	.043	3.398	54.017
1970	63.522	.239	4.076	67.844
1971	64.596	.413	4.268	69.289
1972	67.696	.584	4.398	72.704
1973	70.316	.910	4.433	75.708
1974	67.906	1.272	4.769	73.991
1975	66.355	1.900	4.723	71.999
1976	69.104	2.111	4.768	76.012
1977	70.989	2.702	4.249	78.000
1978	71.856	3.024	5.039	79.986
1979	72.892	2.776	5.166	80.903
1980	69.826	2.739	5.485	78.122
1981	67.570	3.008	5.477	76.168
1982	63.888	3.131	6.034	73.153
1983	63.154	3.203	6.561	73.038
1984	66.504	3.553	6.522	76.714
1985	66.091	4.076	6.185	76.491
1986	66.031	4.380	6.223	76.756
1987	68.522	4.754	5.739	79.173
1988	71.556	5.587	5.568	82.819
1989	72.913	5.602	6.391	84.944
1990	72.333	6.104	6.206	84.652
1991	71.880	6.422	6.238	84.607
1992	73.397	6.479	5.993	85.956
1993	74.836	6.410	6.262	87.603
1994	76.258	6.694	6.155	89.260
1995	77.258	7.075	6.705	91.173
1996	79.783	7.087	7.168	94.175
1997	80.874	6.597	7.178	94.765
1998	81.370	7.068	6.657	95.183
1999	82.428	7.610	6.681	96.817
2000	84.733	7.862	6.264	98.975
2001	82.903	8.033	[R]5.316	96.326
2002	83.750	8.143	5.893	97.858
2003	84.078	7.959	[R]6.150	98.209
2004	86.830	8.222	6.261	100.351
2005	[R]86.817	8.160	[R]6.444	[R]100.506
2006	[R]84.658	[R]8.214	[R]6.922	[R]99.856
2007[P]	86.248	8.415	6.830	101.600

GAIA Newsletter – August 2008

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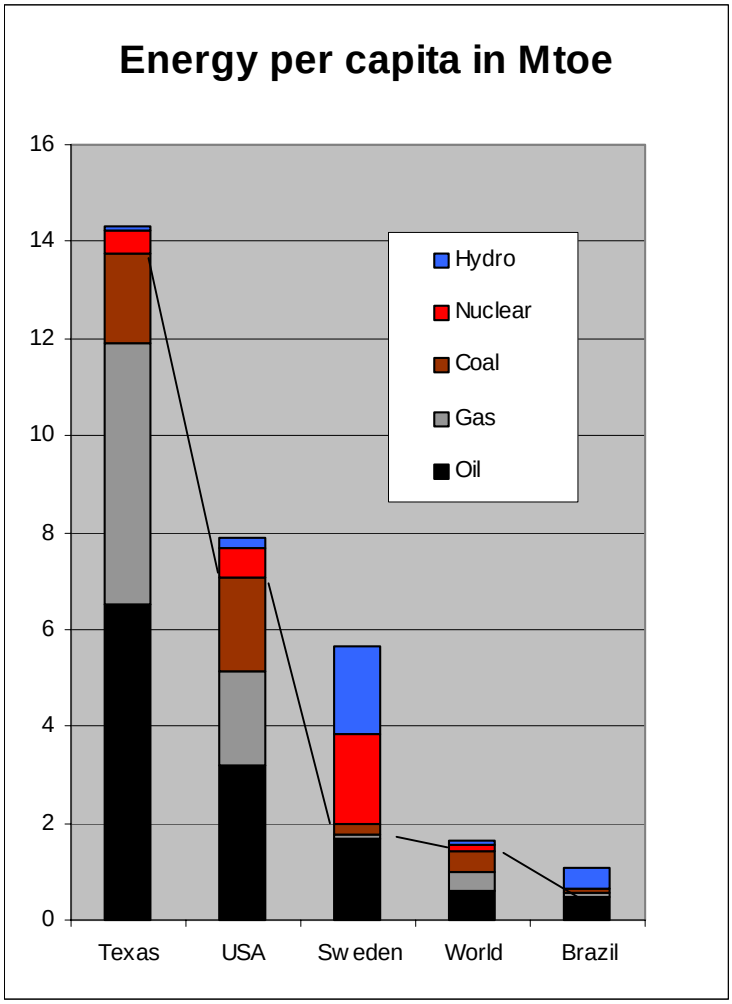
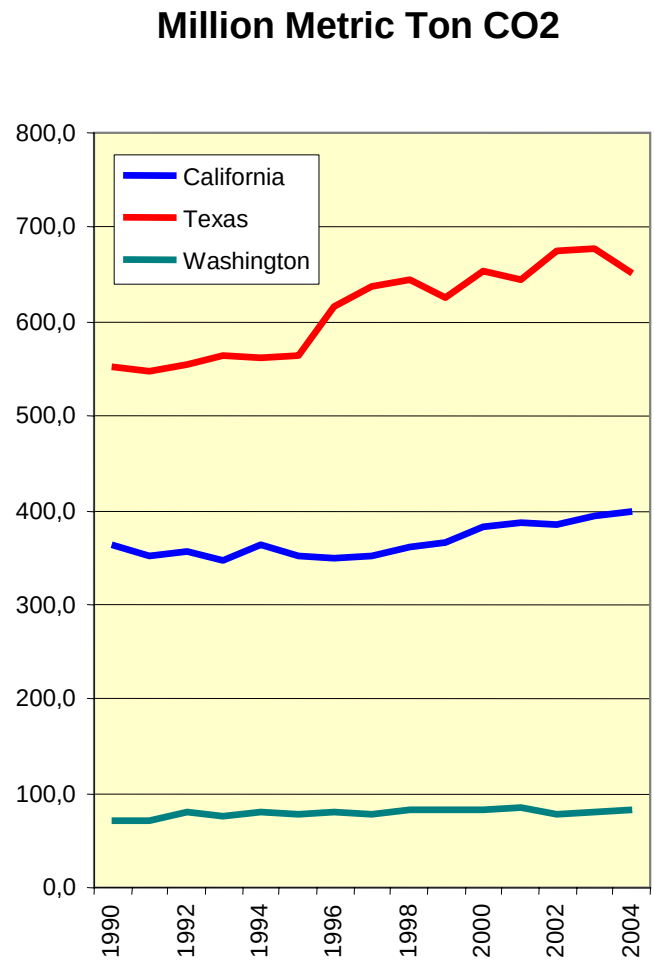
Comparing life styles

I have lived several years in California and traveled through most of North America. My son and his family lives in Texas and one of our best friends have moved to Port Angeles on the most northwestern tip of continental United States. The energy consumption in USA us till increasing and so does the CO_2 emission. So now when we were once again visiting America I could update my impressions in respect to environmental concerns and energy consumption compared to the "American way of living." It is easy for a European and even more so for a person from Latin America, Africa or Asia to see that the American way of living will consume much more energy. More an bigger houses, more and bigger free ways, more and bigger cars, more and bigger fast food restaurants, motels and shopping centers. Since the population in USA is still increasing it is also understandable that the consumption and by this the pollution is still increasing. But the problem is that nature – Mother Earth no longer can take such a massive consumping life style – especially since the rest of the world now is following the American way. So we have two challenges; the first is to have the Americans to reduce their consumption and secondly to have the rest or the world to limit their increase. Both are extremely difficult to do. But we have to.





GAIA Newsletter – August 2008

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The similarities and the differences

When I lived in California during the 1980s I was working with the introduction of renewable energy such as wind, solar and bio fuel. This was long before Europe started with the same development. Today California has one of the lowest emissions of carbon dioxide in USA – but still much higher than for example Sweden. Comparing the energy consumption of California and even Washington it is easy to see that Texas is sticking out with much higher consumption. The main reason is the industrial consumption and some for transportation (Bigger cars) . But looking at the other figures we can see that Texas is on average US level. It is Washington and California who are the exceptions.

So why is the California carbon dioxide emission so much lower compared to Texas and even Washington? The renewable energy is one answer but here Washington also has a lot of hydro. One of the main reason is the climate – not very cold and not very hot for longer periods – at least near the Ocean. One other is that a lot of the heavy industry in California has been moved to other states because of the tougher legislation on energy. And California is the biggest importer of electricity from other states. So if we re-calculate the black figures and distribute the emission from electricity generation to the different sectors (blue) and then also take into account export of electricity from Washington and Texas (Red) we will still see that USA is more like Texas while California and Washington is the exception.

Milion BTU/capita	Residential	Commercial	Industrial	Transport	Total
Texas	71	61	254	120	506
California	42	43	56	91	232
Washington	76	59	94	98	328
USA	73	60	109	95	338

2004 State Emissions by Sector (Metric Tons of Carbon Dioxide/capita)

State Code	Commercial	Electric Power	Residential	Industrial	Transportation	**Total**
CA	0,4	1,3	0,9	2,3	6,5	11,4
TX	0,5	9,8	0,5	9,2	8,4	28,4
WA	0,5	2,4	0,8	2,9	7,2	13,8
USA	0,8	7,9	1,3	3,6	6,6	20,2

2004 State Emissions by Sector (Metric Tons of Carbon Dioxide/capita)

State Code	Commercial	Electric Power	Residential	Industrial	Transportation	**Total**
CA	1,0		1,3	2,5	6,5	11,4
TX	3,5		4,2	12,3	8,4	28,4
WA	1,3		1,8	3,5	7,2	13,8
USA	3,5		4,1	5,9	6,6	20,2

2004 State Emissions by Sector (Metric Tons of Carbon Dioxide/Capita)

State Code	Commercial	Electric Power	Residential	Industrial	Transportation	**Total**
CA	1,3		1,5	2,7	6,5	12,0
TX	3,2		3,8	11,9	8,4	27,3
WA	0,8		1,1	3,1	7,2	12,3
USA	3,5		4,1	5,9	6,6	20,2

GAIA Newsletter – August 2008

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- Texas's 25 petroleum refineries can process more than 4.6 million barrels of crude oil per day, and they account for more than one-fourth of total U.S. refining capacity.
- More than one-fourth of total U.S. natural gas production occurs in Texas, making it the Nation's leading natural gas producer.
- Texas produces and consumes more electricity than any other State, and per capita residential use is significantly higher than the national average.

Economy

Population and Employment	Texas	U.S. Rank	Period
Population	23.9 million	1	2007
Civilian Labor Force	11.6 million	1	2007
Per Capita Personal Income	$37,187	22	2007
Industry	**Texas**	**U.S. Rank**	**Period**
Gross Domestic Product by State	$1142.0 billion	1	2007
Land in Farms	129.9 million acres	1	2002
Market Value of Agricultural Products Sold	$14.1 billion	2	2002

Consumption

per Capita	Texas	U.S. Rank	Period
Total Energy	506 million Btu	5	2005
by Source	**Texas**	**Share of U.S.**	**Period**
Total Energy	11,558 trillion Btu	11.5%	2005
Total Petroleum	1,199,918 thousand barrels	15.9%	2006
Motor Gasoline	285,419 thousand barrels	8.5%	2006
Distillate Fuel	141,350 thousand barrels	9.3%	2006
Liquefied Petroleum Gases	422,776 thousand barrels	56.4%	2006
Jet Fuel	81,452 thousand barrels	13.7%	2006
Natural Gas	3,433,863 million cu ft	14.9%	2006
Coal	103,763 thousand short tons	9.3%	2006
by End-Use Sector	**Texas**	**Share of U.S.**	**Period**
Residential	1,617,740 billion Btu	7.4%	2005
Commercial	1,398,697 billion Btu	7.8%	2005
Industrial	5,812,312 billion Btu	18.0%	2005
Transportation	2,729,500 billion Btu	9.6%	2005
Net Electricity Generation	**Texas**	**Share of U.S.**	**Period**
Total Net Electricity Generation	29,723 thousand MWh	9.8%	Apr-08
Petroleum-Fired	15 thousand MWh	0.7%	Apr-08
Natural Gas-Fired	14,033 thousand MWh	23.1%	Apr-08
Coal-Fired	11,300 thousand MWh	7.7%	Apr-08
Nuclear	2,183 thousand MWh	3.8%	Apr-08
Hydroelectric	174 thousand MWh	0.8%	Apr-08
Other Renewables	1,346 thousand MWh	13.2%	Apr-08

GAIA Newsletter – August 2008

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- Washington is the leading hydroelectric power producer in the Nation. Hydroelectric power accounts for nearly three-fourths of State electricity generation.
- The Grand Coulee hydroelectric power plant on the Columbia River is the highest capacity electric plant in the United States.
- With five refineries, Washington is a principal refining center for the Pacific Northwest.
- State jet fuel consumption is among the highest in the Nation, due in part to several large Air Force and Navy installations.

Economy

Population and Employment	Washington	U.S. Rank	Period
Population	6.5 million	13	2007
Civilian Labor Force	3.5 million	13	2007
Per Capita Personal Income	$40,414	15	2007

Industry	Washington	U.S. Rank	Period
Gross Domestic Product by State	$311.3 billion	13	2007
Land in Farms	15.3 million acres	19	2002
Market Value of Agricultural Products Sold	$5.3 billion	11	2002

Consumption

per Capita	Washington	U.S. Rank	Period
Total Energy	328 million Btu	30	2005

by Source	Washington	Share of U.S.	Period
Total Energy	2,059 trillion Btu	2.1%	2005
Total Petroleum	146,039 thousand barrels	1.9%	2006
Motor Gasoline	65,712 thousand barrels	1.9%	2006
Distillate Fuel	29,918 thousand barrels	2.0%	2006
Liquefied Petroleum Gases	2,921 thousand barrels	0.4%	2006
Jet Fuel	18,588 thousand barrels	3.1%	2006
Natural Gas	263,467 million cu ft	1.1%	2006
Coal	4,219 thousand short tons	0.4%	2006

by End-Use Sector	Washington	Share of U.S.	Period
Residential	479,769 billion Btu	2.2%	2005
Commercial	371,475 billion Btu	2.1%	2005
Industrial	593,213 billion Btu	1.8%	2005
Transportation	614,352 billion Btu	2.2%	2005

Net Electricity Generation	Washington	Share of U.S.	Period
Total Net Electricity Generation	8,319 thousand MWh	2.7%	Apr-08
Petroleum-Fired	2 thousand MWh	0.1%	Apr-08
Natural Gas-Fired	1,044 thousand MWh	1.7%	Apr-08
Coal-Fired	532 thousand MWh	0.4%	Apr-08
Nuclear	803 thousand MWh	1.4%	Apr-08
Hydroelectric	5,493 thousand MWh	24.8%	Apr-08
Other Renewables	412 thousand MWh	4.0%	Apr-08

GAIA Newsletter – August 2008

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- California ranks third in the Nation in refining capacity and its refineries are among the most sophisticated in the world.
- California's per capita energy consumption is low, in part due to mild weather that reduces energy demand for heating and cooling.
- California leads the Nation in electricity generation from non-hydroelectric renewable energy sources, including geothermal power, wind power, fuel wood, landfill gas, and solar power. California is also a leading generator of hydroelectric power.
- California imports more electricity from other States than any other State.

Economy

Population and Employment	California	U.S. Rank	Period
Population	36.6 million	0	2007
Civilian Labor Force	18.4 million	0	2007
Per Capita Personal Income	$41,571	8	2007

Industry	California	U.S. Rank	Period
Gross Domestic Product by State	$1813.0 billion	0	2007
Land in Farms	27.6 million acres	13	2002
Market Value of Agricultural Products Sold	$25.7 billion	1	2002

Consumption

per Capita	California	U.S. Rank	Period
Total Energy	232 million Btu	49	2005

by Source	California	Share of U.S.	Period
Total Energy	8,360 trillion Btu	8.3%	2005
Total Petroleum	713,738 thousand barrels	9.5%	2006
Motor Gasoline	383,178 thousand barrels	11.3%	2006
Distillate Fuel	99,305 thousand barrels	6.5%	2006
Liquefied Petroleum Gases	11,711 thousand barrels	1.6%	2006
Jet Fuel	106,403 thousand barrels	17.9%	2006
Natural Gas	2,292,056 million cu ft	9.9%	2006
Coal	2,771 thousand short tons	0.2%	2006

by End-Use Sector	California	Share of U.S.	Period
Residential	1,516,291 billion Btu	7.0%	2005
Commercial	1,551,480 billion Btu	8.6%	2005
Industrial	2,001,308 billion Btu	6.2%	2005
Transportation	3,290,682 billion Btu	11.6%	2005

Net Electricity Generation	California	Share of U.S.	Period
Total Net Electricity Generation	16,834 thousand MWh	5.5%	Apr-08
Petroleum-Fired	16 thousand MWh	0.7%	Apr-08
Natural Gas-Fired	8,725 thousand MWh	14.3%	Apr-08
Coal-Fired	168 thousand MWh	0.1%	Apr-08
Nuclear	2,436 thousand MWh	4.3%	Apr-08
Hydroelectric	2,895 thousand MWh	13.1%	Apr-08
Other Renewables	2,169 thousand MWh	21.3%	Apr-08

GAIA Newsletter – August 2008
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What do we use electricity for?

I am an electrical engineer and I have worked all my life within the electrical energy sector. So naturally I am biased when I state that electricity is what makes the world go around. But our modern world needs electricity for almost everything. In the developing world electricity is needed for light, as it was in my own childhood. Then we got TV, refrigerator, electric stove. But we also got offices, hotels, restaurants and shopping centers needing more electricity. Heating and cooling of all of this including our own house and even swimming pool. And then computers and Internet. So how about the industry? In my own country electricity was originally very important for industry since we have processing plants for pulp, paper, metals and other manufactured products. Sweden also is using electricity for trains, trams and subways. The electricity consumption in Sweden is even higher than in USA with the most recent figures about 15 000 kWh per capita compared to 12 500 kWh per capita in USA. Texas is on 14 0000 kWh per capita, Washington 13 000 per capita and California only 6 500 KWh per capita. In California the industrial per capita use is 19%, down from 27% in 1990. In Texas and Sweden the industrial portion is around 37%. The Swedish electricity consumption did increase with 4% between 1995 and 2006, California with 23% and Texas with 30%. The Swedish increase was mainly in the industrial sector. Texas had some industrial increase in petrochemical industry but the main increase of almost 40% in California and Texas was for other sectors such as residential and commercial purposes – air conditioning of our larger homes, shopping centers, hotels and offices.

Sector	1990	1995	2006	Percentage Share	
				1990	2006
California					
Retail Sales (thousand megawatthours)					
Residential	66,575	68,783	89,836	31.5	34.2
Commercial	79,691	80,874	121,255	37.8	46.1
Industrial	55,892	57,367	50,991	26.5	19.4
Other	8,935	5,580	NA	4.2	NA
Transportation	NA	NA	877	NA	0.3
All Sectors	211,093	212,605	262,959	100.0	100.0
Texas					
Retail Sales (thousand megawatthours)					
Residential	82,548	92,831	126,843	34.8	37.0
Commercial	62,238	68,580	111,130	26.2	32.4
Industrial	84,087	90,093	104,689	35.4	30.5
Other	8,542	11,775	NA	3.6	NA
Transportation	NA	NA	62	NA	*
All Sectors	237,415	263,279	342,724	100.0	100.0

GAIA Newsletter – August 2008

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How do we produce electricity

So if we agree that our modern world needs electricity for almost everything. And maybe even in the future our cars will move on electricity. We need to have more electricity. Electricity is relatively safe and clean – the problem is how we generate electricity. If we burn fossil fuel the electricity production will pollute – and it does. But when I worked in California during the 1980s the renewable energy boom was on. We built wind parks, solar plants and even bio fuel using old orange trees as fuel for electricity. But what happened after this? California is still ahead of most other states and countries in the world, but.....Hydroelectric and other renewable energy such as wind and solar power actually decreased from 28.9% of the production 1990 to 25% in 2006! The installed capacity was basically the same 2006 as it was when I left California 16 years earlier. Electricity consumption increased a lot. But the big expansion came from natural gas = fossil fuel.

A wind park in California 1988

A solar plant in California 1988

California Electric Power Net Summer Capacity - MW

Energy Source	1990	1995	2006	Percentage Share 1990	Percentage Share 2006
Total Electric Industry	**53,215**	**53,489**	**63,213**	**100.0**	**100.0**
Coal	432	420	389	0.8	0.6
Petroleum	2,968[R]	1,866[R]	789	5.6	1.2
Natural Gas	26,075[R]	26,786[R]	38,001	49.0	60.1
Other Gases	107	176	171	0.2	0.3
Nuclear	4,746	4,310	4,390	8.9	6.9
Hydroelectric	9,767	10,446	10,083	18.4	16.0
Other Renewables	5,594	5,746	5,693	10.5	9.0
Pumped Storage	3,526	3,730	3,688	6.6	5.8
Other	-	9	8	-	*

GAIA Newsletter – August 2008

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The carbon dioxide is increasing – so what?

Our world is like a Coca Cola bottle. Black and full of carbon dioxide. And if you start to shake it, it may blow. The monitoring of the carbon dioxide level on Mauna Lua in Hawaii shows the constant increase of the level of carbon dioxide in our atmosphere. From August 2007 to August 2008 the increase was 2.29 ppm. That is the highest increase so far! From july to july it was 2.04 ppm.

From August 2006 to August 2007 it was 1.52. We are lucky that the solar radiation right now is lower than normal but what will happen when this will change. What really surprised me when we recently visited USA was that this no loner is an issue. Global warming and the environment is not on the agenda. Neither for politicians, media nor common people. Because now there is an election of the US president.

2006	8	2006.625	380.33	380.33	382.02
2006	9	2006.708	378.81	378.81	382.11
2006	10	2006.792	379.06	379.06	382.35
2006	11	2006.875	380.17	380.17	382.24
2006	12	2006.958	381.85	381.85	382.59
2007	1	2007.042	382.91	382.91	382.69
2007	2	2007.125	383.87	383.87	382.99
2007	3	2007.208	384.51	384.51	383.04
2007	4	2007.292	386.38	386.38	383.69
2007	5	2007.375	386.54	386.54	383.49
2007	6	2007.458	385.98	385.98	383.67
2007	7	2007.542	384.35	384.35	383.90
2007	8	2007.625	381.85	381.85	383.54
2007	9	2007.708	380.73	380.73	384.03
2007	10	2007.792	381.15	381.15	384.44
2007	11	2007.875	382.38	382.38	384.46
2007	12	2007.958	383.90	383.90	384.64
2008	1	2008.042	385.37	385.37	385.15
2008	2	2008.125	385.69	385.69	384.81
2008	3	2008.208	385.93	385.93	384.46
2008	4	2008.292	387.04	387.04	384.35
2008	5	2008.375	388.60	388.60	385.55
2008	6	2008.458	387.86	387.86	385.54
2008	7	2008.542	386.39	386.39	385.93
2008	8	2008.625	384.14	384.14	385.82

Monthly average Season trend

GAIA Newsletter – August 2008

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What causes a hurricane?

Despite very powerful computers we cannot predict the weather exactly not even for tomorrow where we live. There are so many factors that influence our weather. But we may observe trends like the average temperature is rising and the glaciers are melting. So one day we have sun and the other it is raining – and changing with the seasons - at least if we live in Europe, Japan or North America. But if we live near the Equator it will be different.

And sometimes we will experience a storm. In the Atlantic Ocean a large storm is called hurricane and in the Pacific Ocean Typhoon. As long as we know these storms have been occurring. There is no direct proof that the number of hurricanes have increased. But we have been observing that the hurricanes increase in strength and consequently cause more damage. And many believe this is caused by the global warming.

16 August 2006 the head line was "U.S. Study Links Global Warming, Hurricane Intensity" When James Elsner of Florida State University examined the statistical connection between the average global near-surface air temperature and Atlantic sea surface temperature, comparing the two factors with hurricane intensities over the past 50 years the conclusion was: *"The large increases in powerful hurricanes over the past several decades, together with the results presented here, certainly suggest cause for concern".* Elsner found that average air temperatures during hurricane season between June and November are useful in predicting sea surface temperatures -- a vital component in nourishing hurricane winds as they strengthen over warm waters -- but sea surface temperatures are not useful in predicting air temperatures.

Several recent studies have warned that human-induced climate warming has the potential to increase the number of hurricanes, and previous research and computer models suggest that hurricane strength will intensify with increasing global mean temperatures. Elsner's analysis helps verify a link between atmospheric warming caused largely by greenhouse gases and the recent upswing in frequency and intensity of Atlantic hurricanes, including Katrina and Rita, which devastated parts of Mississippi, Louisiana, and Texas in 2005.
"I infer that future hurricane hazard mitigation efforts should reflect that hurricane damage will continue to increase, in part, due to greenhouse warming," Elsner said.

Gustav on the way to U.S.

Costliest U.S. Atlantic hurricanes

Cost refers to total estimated property damage.

Rank	Hurricane	Season	Cost (2008 USD)
1	Katrina	2005	$89.6 billion
2	Andrew	1992	$44.9 billion
3	Ike	2008	approx. $27 billion
4	Wilma	2005	$22.7 billion
5	Gustav	2008	approx. $20 billion

..and yes, a few thousand lives

GAIA Newsletter – August 2008
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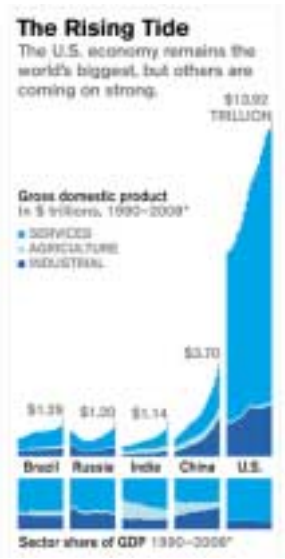
The new world order?

When Soviet Union collapsed the new world order was announced. A deregulated global market without any politics or nukes – governed by the almighty market. And this has consequently generated economic growth with increased consumption requiring more resources but also generated more pollution. USA and Wall Street was still however the center of this development now accelerating in an exponential manner where the sky was the limit...or not?

Fortune Magazine July 14 is asking the question: *"Is the great global economic boom finally coming to an end?"* The answer is no – at least it was no in July and said *Welcome to the new, precariously bipolar world.*

While gross domestic product growth is cooling a bit in emerging markets, the results are still tremendous compared with the U.S. and much of Western Europe. The 54 developing markets surveyed by Global Insight will post a 6.7% jump in real GDP this year, down from 7.5% last year. The 31 developed countries will grow an estimated 1.6%. The difference in growth rates represents the largest spread between developed and developing markets in the 37-year history of the survey. "The fact that the U.S. is no longer the locomotive of growth it was a few years ago," says Nariman Behravesh, Global Insight's chief economist, "doesn't seem to be that important anymore."

Put another way, the American consumer is still hungry, but the world consumer is voracious.Consider the growing middle class in China, which is expected to multiply sevenfold by 2020, to 700 million people, according to Euromonitor, and India, where the number of middle-income folks will grow more than tenfold, to 583 million, says consultancy McKinsey & Co. First they want new homes with electricity - witness the quadrupling prices since 2000 of steel, oil, and copper. Then, as incomes rise, so does demand for everything from toothpaste to telephones, from automobiles to airplanes.



Robert McDonald, Procter & Gamble's (PG, Fortune 500) chief operating officer, has borrowed a military term to describe this new business world order: "It's a VUCA world," he says - volatile, uncertain, complex, and ambiguous. "The idea that a butterfly flaps its wings in Africa and an earthquake occurs somewhere else in the world is our reality. It's no longer just a nice book that Thomas Friedman wrote," he adds, referring to the New York Times columnist's book on globalization. "It's my life."

GAIA Newsletter – August 2008
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The most important election in the world

USA is today the only remaining super power. It is the engine of the globalized economy. Half of the world's total military expenses are used to support the US army around the world. The American way of life – is the template for billions of people in the "emerging markets"...and the American way of life is what is causing the carbon dioxide emissions now endangering our planet together with the emission of thousands of chemical substances and gene modified plants. Who is governing USA will consequently have a BIG impact on our common future. In my own country Sweden this is considered so important that a special international conference is held just to discuss this 2008-10-15. The conference is arranged by Stockholm MISTRA Institute (SMI) on Sustainable Governance and management of Social- Ecological Systems.

"The 2008 US Presidential Election: What Might it Mean for International Climate Change Cooperation?

This November, US voters will select a new president. Climate change is one of many issues that will be affected by a change in the White House. This conference examines the potential impact that a new presidential administration might have concerning future efforts to address the climate change threat. The next US president's climate protection agenda, regional and national climate policies in the US, and the potential for the US and the EU to provide joint leadership to address the challenge of climate change and forge a new post-Kyoto agreement are all among the issues that will be addressed."

The conference is organized by Clipore, Sweden's largest international research program on international climate policy. The program is funded by the Swedish Foundation for Strategic Environmental Research, Mistra. Clipore has around 40 researchers working in Sweden, the US, India, and Norway, and has an annual budget of approximately 20 million Swedish crowns. You can find more information at: http://www.stockholmresilience.org/mistra

So the whole world is watching the election in USA because the only one who can vote is a registered American citizen and normally about 50% will turn out for this election now determining the fate of the world. So what are the main issues that U.S. voters are concerned of? Are they the same as in the rest of the world?

How about the environment and global warming for example?

GAIA Newsletter – August 2008
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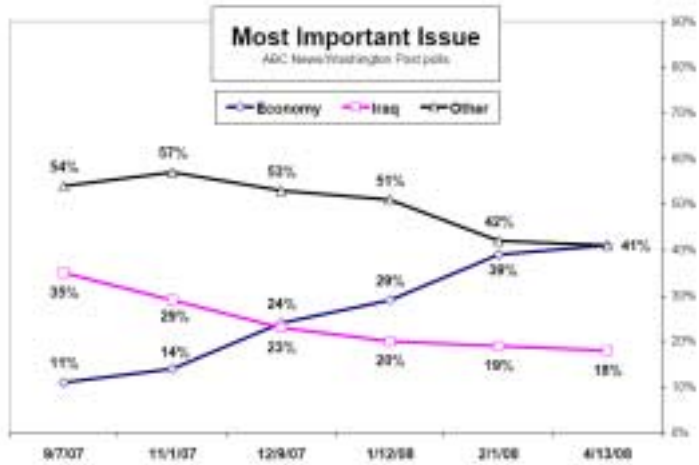
What is important in America?

This ABC News/Washington Post poll was conducted by telephone up to April 10-13, 2008. What is surprising and alarming for many Europeans is that no one concider Global Warming to be the most important issue. And the economy has now taken over the lead from Iraq while health care is dcreasing drastically.



3. Thinking ahead to the November presidential election, what is the single most important issue in your choice for president?

	4/13/08	2/1/08	1/12/08	12/9/07	11/1/07	9/7/07
Iraq/War in Iraq	18	19	20	23	29	35
Terrorism/National security	5	5	4	9	5	6
Economy/Jobs	41	39	29	24	14	11
Education	2	2	2	1	2	1
Environment	*	1	1	1	2	1
Health care	7	8	10	10	13	13
Ethics/Honesty/ Corruption in government	4	4	5	4	4	6
Immigration/Illegal immigration	4	4	4	5	5	5
Abortion	1	1	1	1	1	1
Morals/Family values	2	2	2	3	3	2
Federal budget deficit	*	*	*	*	1	1
Housing/Mortgages	*	*	*	*	*	*
Global warming	0	*	*	*	*	*
Social Security	*	*	1	1	2	1
Foreign policy	1	1	2	1	2	1
Iran/Situation in Iran	0	0	*	0	*	0
Taxes	*	1	1	1	1	1
Guns/Gun control	*	*	*	*		
None/Nothing	*	*	*	1	*	*
Other	7	6	10	7	9	7
No opinion	5	7	7	7	8	9

GAIA Newsletter – August 2008

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What is important in America for democrats?

Well some of you may have guessed that I prefer democrats over republicans when it comes to politics. However I may have a beer with a republican once in a a while but this do not qualify him to run USA and the rest of the world. So going back to the poll – can we see some differences in preference? The poll from end of 2007 shows the two most important issues. For democrats this was Iraq and Health care. For republicans this was Iraq and Immegration. And imagine 2 democrats listed "Global Warming" as an issue and 4 listed the environment. (Compared to 55 for Iraq). The republicans did not list any Global Warming or Environment at all but Abortion (15), Taxes (13) , Morals (10). And both were concerned about economy and jobs.

So what is the conclusion. Yes there are differences between traditional republicans and democrats. But the sad thing is the common low interest in environment and global warming – at least as major issues when election the presnident. I believe this difference in attitude between Europe and USA is not understood on either side.

Republicans

18/18a NET: Top two important issues combined.

	11/18/07
Iraq/War in Iraq	24
Terrorism/National security	21
Economy/Jobs	16
Education	2
Environment	*
Health care	16
Ethics/Honesty/Corruption in government	5
Immigration/Illegal immigration	24
Abortion	15
Morals/Family values	10
Federal budget deficit	4
Housing/Mortgages	*
Global warming	0
Social Security	4
Foreign policy	3
Iran/Situation in Iran	*
Taxes	13
Energy/Ethanol	2
Farming/Agriculture issues	0
None/Nothing	0
Other	15
No opinion	5

Democrats

9/9a NET: Top two important issues combined.

	11/18/07
Iraq/War in Iraq	55
Health care	50
Economy/Jobs	21
Education	10
Ethics/Honesty/Corruption in government	6
Immigration/Illegal immigration	6
Social Security	5
Environment	4
Energy/Ethanol	3
Foreign policy	3
Abortion	2
Global warming	2
Morals/Family values	2
Federal budget deficit	2
Taxes	2
Iran/Situation in Iran	1
Farming/Agriculture issues	1
Terrorism/National security	1
Housing/Mortgages	*
None/Nothing	1
Other	12
No opinion	3

GAIA Newsletter – August 2008

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What is important in America - yesterday?

I have continued to update these polls also during the beginning of September. (And entered into this August news letter) . So what has changed? Well number one these other polls are not identical but we can still se some interesting trends. Generally the economy is increasing although the recent turmoil is not even included. In splitting democrats and republicans the main differences are the same as before. But health care is now sliding down for everyone and especially republicans.

CNN/Opinion Research Corporation Poll. Sept. 5-7, 2008. N=461 registered voters nationwide. MoE ± 4.5.

"Which of the following issues will be MOST important to you when you decide how to vote for president: [see below]?" Options rotated

	9/5-7/08	7/27-29/08	6/4-5/08
	%	%	%
Economy	56	48	42
War in Iraq	13	18	24
Health care	12	13	12
Terrorism	11	9	11
Illegal immigration	6	9	8
Other (vol.)	1	2	1
Unsure	1	-	1

Newsweek Poll conducted by Princeton Survey Research Associates International. Sept. 10-11, 2008. N=1,038 registered voters nationwide. MoE ± 3.8 (for all registered voters).

"Which ONE of the following ISSUES is MOST important in determining your vote for president this year? The economy and jobs. Taxes and government spending. The Iraq war. Terrorism and national security. Energy policy and gas prices. Issues like abortion, guns, and same-sex marriage. Health care." Options rotated

	ALL	Obama Supporters	McCain Supporters
	%	%	%
Economy and jobs	39	55	23
Taxes, government spending	14	7	22
Iraq war	10	15	5
Terrorism, national security	10	2	18
Energy policy, gas prices	8	7	9
Abortion, guns, marriage	8	3	13
Health care	7	9	4
Other/None of these (vol.)	1	-	1
Unsure	3	2	5

GAIA Newsletter – August 2008
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What is important in America – today and in January?

The most recent poll is from FOX just when "hell broke loose" but probably not yet affecting the polls. Now FOX news is as most know some what biased and so are probably the responding persons. Economy is still number one but terrorism is number two concern. Despite of my disappointment I continued looking for other polls that could indicate something else. Because through my life I have learned two things; First you get answers depending on your questions. Secondly is that you can prove almost anything with statistics. (Even an American presidential election if your brother is Governor in Florida) . So in the Fortune magazine from January 2008 I found "Global Warming" – Halleluiah! Number 9 in ranking. So maybe there is hope after all!

FOX News/Opinion Dynamics Poll Sept. 22-23, 2008. N=900 registered voters nationwide. MoE ± 3

"Which one of the following issues will be the most important in deciding your vote for president: [see below]?" Options rotated

	%
Economy and jobs	46
Terrorism and national security	10
War in Iraq	8
Taxes	7
Ethics/government corruption	7
Health care	7
Abortion	4
Energy	3
Immigration	1
Other (vol.)	4
Unsure	3

Fortune Magazine poll conducted by Abt SRBI. Jan. 14-16, 2008. N=1,000 adults nationwide. MoE ± 3.

"To start with, I am going to name some issues that are in the news these days. Please tell me how important the issue is to you personally, in voting in this year's presidential election. Is [see below] an issue that is extremely important to you, very important, somewhat important, not too important, or not at all important to you?"

	Extremely Important	Very Important	Somewhat Important	Not Too Important	Not at All Important
	%	%	%	%	%
The nation's economy	46	41	12	1	1
Health care	44	37	14	3	2
The situation in Iraq	42	42	12	2	2
Terrorism	41	37	15	4	2
Education	39	41	15	3	2
Social Security	35	36	23	4	2
Taxes	32	39	21	5	3
Immigration	27	33	26	10	4
Global warming	20	28	27	11	12
Abortion	20	25	25	12	14
U.S. trade with foreign nations	18	34	35	7	4

GAIA Newsletter – August 2008
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Our personal dilemma how to limit the green house effect

This is easy. Live as humans have lived for centuries. In harmony with nature and not to destroy it. Like the original natives in Washington. Do not pollute. Re-cycle. This means do not travel by airplanes, cars and ships using fossil fuel. Do not consume meat from our growing meat factories. Do not cut down ancient forest to build freeways, housing or fields to plant crops to feed our meat factories.

Sounds easy or impossible? What is easy is to use technology to be more efficient. For example we rented a Toyota Prius hybrid car for our travels through Washington and British Columbia. The whole trip was done with gasoline for just 50 USD. One reason is that the hybrid car takes 1/3 of a "normal" American car but also since the gas prices in US is just half of in Europe – and still Americans now complain. We did not stay in motels but with family and friends. And in Victoria, B.C. we stayed in a bed and breakfast. Did you know that more than half of the land used for our urban living are for roads and streets or shopping centers, fast food restaurants and motels. It all has to do with our consumption addiction.

But the problem is that it is this consumption that is driving the economy. When the economy is down we are told to consume more. Basically it doesn't matter what you consume. But don't take your old bicycle to work or walk into the forest to pick mushrooms, because this will not increase the economic growth. But our dilemma is that the consumption driving our economy is also driving our pollution. So in order to change we need to change the very model for our economic activities. And now you become scared. Are we talking about communism again? Fortunately not. Communism was directed towards the same materialistic goals as capitalism but did not work as good at all for anything. No we need to find something else to define quality of life instead of endless consumption to make a few "Stupid white males" (Michael More quote) rich on Wall Street. And it is not enough to buy organic food and change to low energy lamps.

We went to a couple of these new "Organic food" stores. Big markets with everything from fruit and wine to coffee and rice. Naturally this is better than gene modified food produced with a lot of artificial help. But when we looked at the labels this food was transported by airplanes from all over the world. And everyone were traveling long distances big cars to get to these markets. Instead of walking to a local store or market and buy locally produced food – as we used to do. In fact it is very easy. The more you consume -the more you buy, eat and travel the more you will pollute. If you have a big house with air conditioning and/or heating naturally it is necessary to insulate it as good as it can be done. But it is still more consumption compared to a small house. "Small is beautiful" as Schumacher wrote in the 1970s is still valid. The reason why the American society consume so much more energy (and pollute so much more) is because everything is more and bigger in America. Houses, shopping centers, free ways, motels, steaks etc. And this consumption is growing. Nothing is really changing. Americans could reduce their consumption a lot by adopt to a more European life style. But the opposite is happening. Europeans are adopting to an American life style and so does the growing middle class in the rest of the world.

GAIA Newsletter – August 2008

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Big Brother is Watching You

I often use Internet. A fantastic source of information. And easy to contact people via mail or SKYPE. And also to look for addresses of someone you lost contact with. So when looking for someone in the USA I use White pages. (There are similar pages in most countries) . While looking for relatives I all of a sudden found – myself. But I moved from the USA before Internet was invented! Anyway here I am in cyber space with my 3 old addresses in Glendora California and one in San Francisco. Imagine if they even know where I am now. For only 59.95 anyone can get my marriage and divorce records. But you can save the money and read about this in GAIA – 60 year crisis story and these newsletters. There you even have my complete family back in 15 generations. And please do not look for the bankruptcies and criminal records. Can I not have something kept a secret.....

If you want to enjoy some of my private photos from our recent trip to Texas and Washington , please open the "GAIA Autumn Special" newsletter. This will also illustrate some of my statements on the energy consumption.

But to be serious "Big Brother" is actually watching you today. And not only watching but to control you! Advertising has grown to a mind bending industry not only to get you to but things and consume more but to sell you the president and other persons you shall elect in our free democracy. The massive concentration in media and the commercial direction of most of them except maybe a few public TV channels is today your Big Brother. We are all "embedded" in what the market and the establishment want us to believe. You therefore actively have to search for the truth and make your own conclusion. Use Internet!