

GAIA Newsletter – Global Crisis Special 2008

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The Global Crisis

What is a better place to discuss global warming and the financial crisis than Venetian, the world's largest air conditioned hotel, luxury shopping and casino in Macao in China. Built and operated by one of the U.S. Las Vegas multibillionaires and now making twice the money as in the original hotel in Las Vegas. Just across the Pearl River millions of Chinese workers have been producing toys and electronics for Wal-Mart, the worlds largest company and close to Hong Kong which stock market went down 14 % yesterday and up 14% today.

So here I am at one of all these conferences with the decision makers within the power industry, 99% of them older men in suits discussing how we can solve global warming. As a meaningful coincidence (?) we are staying in luxury suites in this combined hotel, casino and shopping center where you can dine Main lobster, Brazilian steak or Swiss ice cream and buy any of the extremely expensive fashion items available (Also made in China) on the third floor, play golf or go to the largest SPA in the world with five swimming pools on the fifth floor or loose everything you have in the casino on the first floor.

We are about one thousand older men like me who flew here from Japan, Australia, USA, Taiwan and Europe for the conference but the other guests in the Casino are from a rapidly growing Chinese upper middleclass. So maybe we have the solution to both global warming and the financial crisis. We build many more of these enormous air conditioned casino-hotel-shopping centers so we can stay cool and continuously spend money to grow the economy. And since the newly rich Chinese businessmen will loose the money they are making by selling toys in USA in American owned casinos – this will compensate the deficit. Hurray we have saved the world and can go on with business as usual.



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The Global Crisis of our minds

The global 60 years crisis is here. It is going to affect all of us. And we are all aware of it. The problem is that it is the financial crisis! Our media is full of reports, analysis, interviews and predictions about the stock market. Shall it collapse or is it now the best time to buy and make a fortune. Newspapers, magazines, TV channels and Internet is flooded with this “information”? But no-one is really asking why this is happening. How this crisis is connected with our model and way of living. How utterly poor our media and political thinking have become. This is furthermore demonstrated in the US presidential campaign where the facts are long gone for simple slogans on who is a better president to go to war, reduce taxes, drill more oil and which state that is more patriotic than the other. Hey guys wake up we have a global crisis caused by you!!! In a way it is not only a melt down of the economical system but a meltdown of our ability to critical thinking. Because in the middle of this financial crisis we have forgot the real global crisis – the melt down of our environment.

I am right now in Macau, the old Portuguese colony that now is part of China. I am attending a conference focusing on energy and the environment together with hundreds of experts discussing sustainable technology. One of many conferences being held. What is unique with this conference is that it is in China and very much about China. So how can I say that we do not discuss the environmental crisis? When I flew from Europe to Hong Kong I picked up some newspapers to read on the airplane. The two leading Swedish newspapers, Dagens Nyheter and Svenska Dagbladet together with the Herald Tribune and Financial Times. as well as Newsweek. Not one single word about the environmental crisis was mentioned. **NOT ONE SINGLE WORD ABOUT THE ENVIRONMENTAL CRISIS WAS MENTIONED.** The Swedish leading newspaper Dagens Nyheter had 20 pages with “news”, 20 pages about “culture”, and entertainment, 13 pages about the economy, 5 about sport, 13 about housing and 127 pages with advertising....

I also picked up the Hong Kong based South China Morning Post . Naturally they also wrote about the financial crisis but I was impressed how much more information about both China and global you could find compared to the other “western” media. And they even had something on the environment referring to the new China energy report from Chinese Academy of sciences saying that China would double its emission of CO2 by 2030. The report warns for dramatic risks for inaction in the face of this projected growth.

In the hotel where I am staying I can watch CNN, Fox news and Aljazeera. I have CNN at home and I occasionally watch it and found it OK but still very shallow. I was very surprised by Aljazeera. The best news channel I have seen so far. But I was flabbergasted over FOX news. What is this rubbish? A mixture between North Korean state TV and old Nazi propaganda. Right now a witch hunt for Obama. How can anyone watch or believe the pure shit that this channel puts out. A total meltdown of decency and intelligence. The problem is that a large population in USA is indoctrinated by this crap. For this reason it is not just embarrassing but also a danger for democracy.

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Welcome to Venice

The revival of Europe after the collapse of the Roman Empire was based on rediscovering our history and learning from the more advanced Muslim and Chinese cultures. Marco Polo has become famous for his journey through Asia and he started the search by Italian, Spanish, Portuguese, Dutch and British adventurers for the fortunes of the East. Hong Kong became the British port and Macau the Portuguese port to this unique culture and nation. Both the Europe, USA and Japan has tried to enter China from the ugly opium wars to the Japanese occupation. After the liberation under Mao China tried to build a communist state based on peasants. China is still called communist but now the most capitalist state on the world totally interlinked with the economy of its former enemy, USA.

I visited Hong Kong and mainland China the first time 1989 and have been back regularly. 1989 there was a tremendous difference between the British ruled Hong Kong with the highest numbers of Rolls Roys in the world and the rice fields, trucks and bicycles of Guangdong in China. Every time I have been back to Guangdong, Beijing, Shanghai and Hainan I have become amazed by the magnitude and speed of the westernization. But this time I am even more amazed. I am staying at the biggest hotel and casino in the world, the Venetian in Macao with 40 stories and a cost of 2.4 Billion USD. Built and owned by the Las Vegas Sands corporation it is one out of forty (40) casinos in Macau that 2006 passed Las Vegas as the gambling center in the world with double the profit (for the owners) and loss (for the players). The casinos in Macao now makes more than 4 Billion USD in profit a year.

The Venetian is the third largest building in the world with almost 1 000 000 m² with 3000 luxury suites, 250 elevators and has the world's largest air conditioning. And now it is being extended with Four Seasons hotel and casino with 200 even more luxury shops. If you shop for more than 10 000 USD per day you will get a free "Image consultant" to advice the right diamonds and shoes as well as a free ride with Mercedes-Benz limo. It is very interesting to experience the revolution in red communist China. I wonder what Mao would have said?



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An other world in Macau

Although I have traveled through more than seventy countries and seen everything from Taj Mahal to Babylon I have to admit that it is impossible not to be impressed of this artificial world. A copy of Venice with all the canals with gondolas and their real singing Italians and street entertainers from Venice under an always blue evening sky (Venice is indoor but with a wonderful sky). All these luxury stores Gucci, Prada, Dior, Hugo Boss, Armani, Chanel, Cartier etc. And thousands of Chinese men and women gambling with 1000 USD chips or more. But when you compare this artificial glamorous but high energy, high consuming and high polluting world for the rich few with the real world it becomes very absurd. As absurd as the Cirque du Soleil show we all saw last night. Who could come up with such a insane idea to put a conference about global warming in such a place? And I just found out that 2-4 April 2009 the “Global Green Gathering” will be in the same place under the theme “Join us in one collective drive to contain global warming”. Are we totally insane?



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An other world in Venetian

Even the elevators and the bathrooms were made with marble and crystal. The only “normal” thing to experience in this fantasy world was one single McDonalds – but even this was a luxury version.



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Air conditioning and wind

From my hotel window I can see two things. The enormous air conditioning machinery for Venetian connected to four transformers with a total maximum power of 160 MW and sometimes through the smogg I can see 12 wind turbines on one of the mountains in mainland China. The only problem is that it is needed 160 wind turbines with 1 MW each to replace that power. In fact since the efficiency is only 33% for the wind turbines we would need 460 wind turbines.....Now Venetian does not need full power all the time so maybe it is enough with some 200 wind turbines.....



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A changing China

Yes China is changing rapidly also outside the Venetian casino. From Hong Kong and Macao old colonies the western culture has conquered the cities with it's growing young population. This small island -Macao has 500 000 inhabitants on 28 km² but receives 20 million visitors every year – is today a mixture of old and new – very poor and very rich. Per capita for the whole population –China is still a very small consumer of electricity. But growing very fast. Between 2002 and 2007 China installed more capacity than had been installed for the previous 53 years. And it will increase almost 3 times more until 2020.

Taiwan – the other China started even earlier and has today the highest per capita emission of CO₂ in Asia with 11.8 tons/person. The emissions increased with 220% from 1990 to 2002. For primary energy Taiwan has 92 % dependence on fossil fuel, 7% nuclear and 1 % hydro. And still increasing. So how shall this equation be solved. The world will continue to increase energy consumption but we need to drastically reduce the pollution.

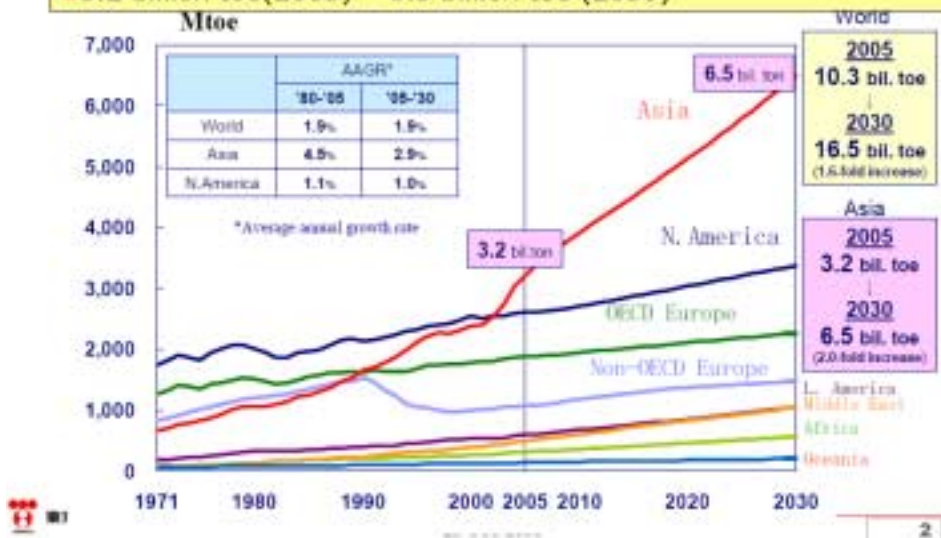


The Asian Dragon

All the world is increasing energy consumption but Asia is skyrocketing. And this is due to the effect of scale with half of the world population. So the development in China and India is crucial.

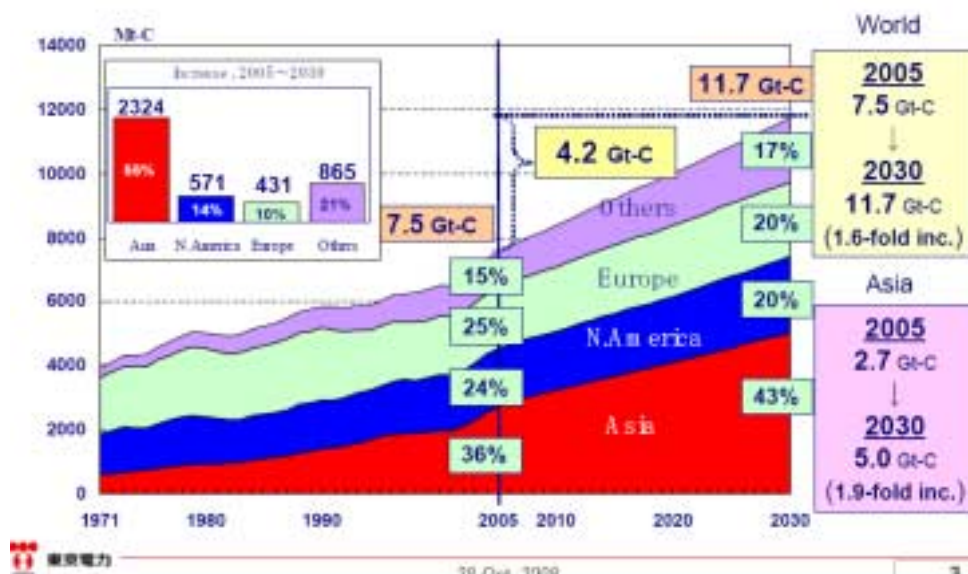
World Primary Energy Demand by Region

- In 2030, primary energy demand of Asia achieves twice as much as current level.
- 3.2 billion toe(2005) → 6.5 billion toe (2030)



World CO₂ Emission by Region

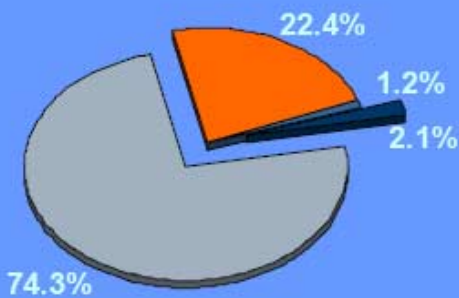
- CO₂ Emission increase in Asia will account for 55%.



The China syndrome?

China is aware of the challenge. Several technologies are being deployed to reduce emission and increase renewable energy, reduce losses etc. , but the size of the increase will still offset these improvements. Both China and India base their renewable energy on hydro power from the Himalayas. But with global warming these resources may dry up....

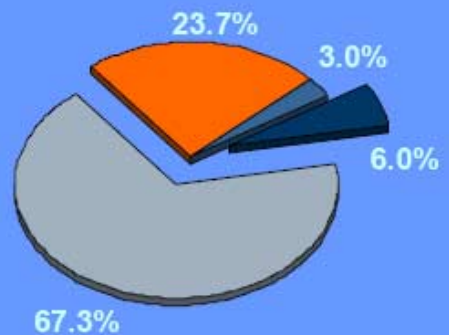
Year 2010



■ Thermal
■ Nuclear

■ Hydro
■ Renewable Energy

Year 2020



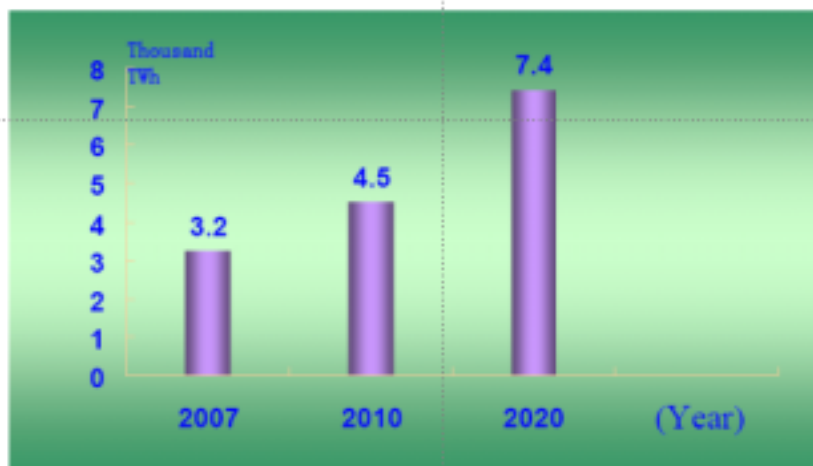
■ Thermal
■ Nuclear

■ Hydro
■ Renewable Energy

Power Demand (China)



Rapid growth will continue in long term

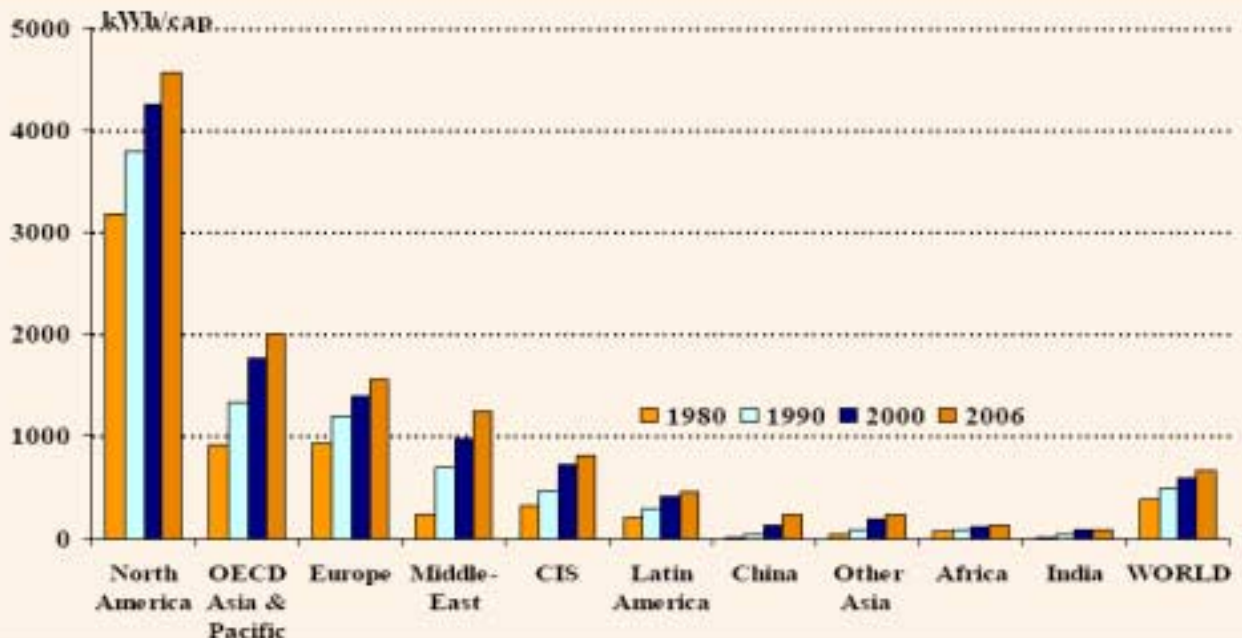


An unequal world also in electricity

North America has the highest use of energy and electricity as well as highest per capita pollution of all regions – by far. Even the growth from 1980 to 2006 has been higher than the total per capita consumption in the rest of the world. Still this issue is not being discussed at all in the US presidential campaign. How can we make this an issue instead of more drilling for oil? The first step is to stop McCain!



Household Electricity Consumption per capita

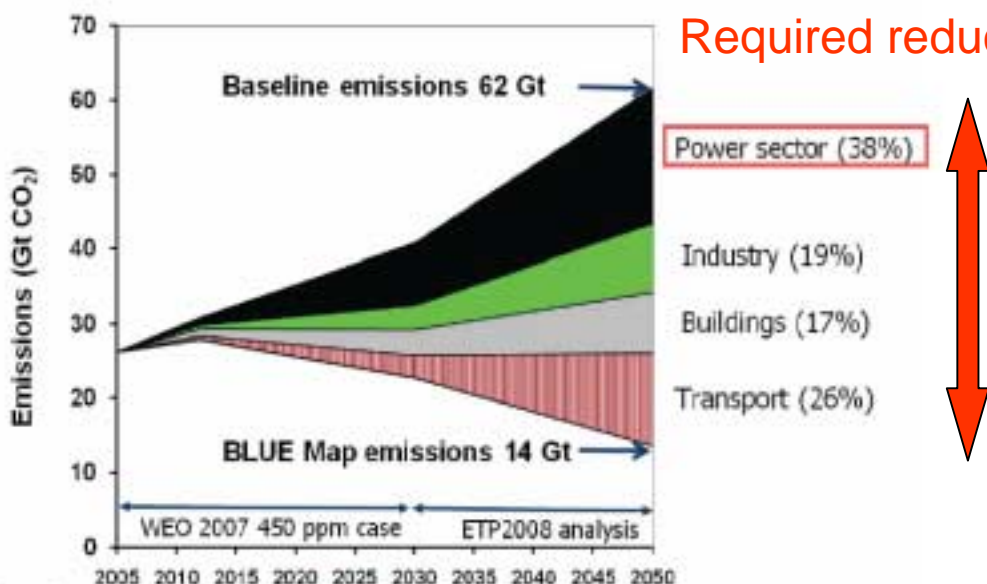
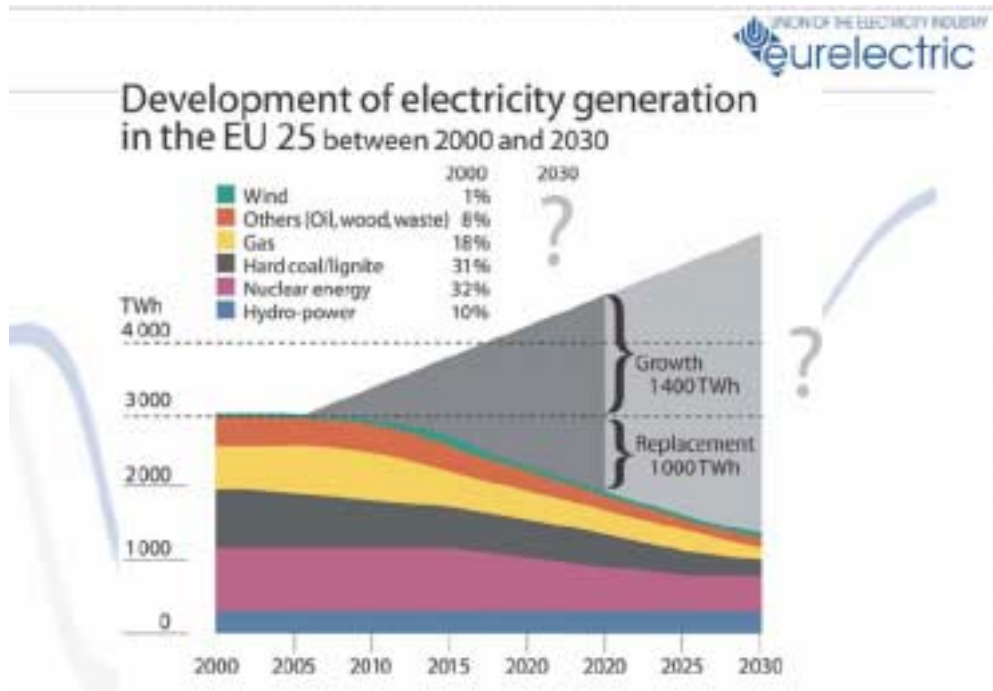


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Our challenge according to the conference

To allow rapid growth in the emerging markets, slower growth in Europe, Japan and USA – but at the same time replace old power plants....and stop global warming.



Source: Energy Technology Perspective 2008, IEA

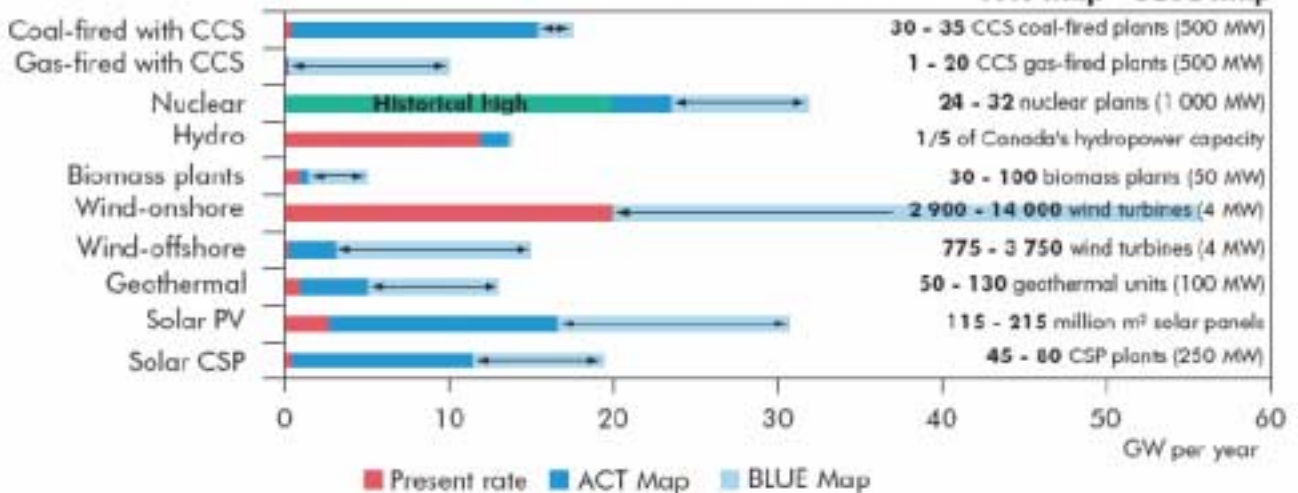
So what do we need to do?

If we would accept continuous growth we will need to use all possible technologies from nuclear power plants and CCS equipped coal fired plants to solar and wind in a tremendous scale. The problem with us “stupid old white man” is that we can only think at one thing at the time. Now it is the financial crisis and a little of global warming but we cannot see the connection. Because to build new power plants require more steel and other material, more cars require even more material and roads, concrete is used for more skyscrapers etc. And the space left for nature is becoming smaller and smaller. So we need to find another solution with another holistic perspective.

To Halve 2050 Emissions, We Need Additional...

- > 32 new nuclear plants
- > 17,750 wind turbines
- > 35 CCS-equipped coal-fired power stations
- > 80 Concentrating Solar Power plants
- > 130 geothermal plants
- > EACH YEAR!

Annual Power Generation Capacity Additions, 2010 – 2050



Source: Energy Technology Perspective 2008, IEA

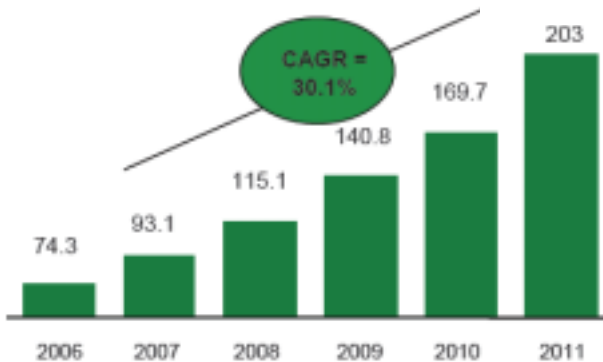
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Sustainable alternatives

Yes – the development of wind energy is going fast and this is positive. We use more bio fuel but often this need more energy than we get and take land from food production. (Except from Brazil) The share of renewable energy is increasing significantly – but the increase of energy consumption is increasing even faster – unless the economical crisis will slow this down. So maybe after all Wall Street will help us to halt global warming.....

Wind Installed Capacity by Region
GW in 2006 and 2011



- Wind Installed Capacity Worldwide
- GW 2006 - 2011

OECD Biofuels Report (July, 2008)

► Savings in greenhouse gases are poor (total EU < 1%)

Brazil	sugar cane	80%
EU	wheat, beet, veg. oil	30-60%
USA	maize	30%

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So how shall we stop global warming?

I am still at the conference. After the first three days of various presentations from Europe, USA, Australia, China, Japan, Taiwan etc. I have to admit that we still have not a clue.

An improvement is however that one of the Chinese participants showed a triangle and concluded that we need to address three things at the same time; The economical crisis, Environmental deterioration, More resources. He also stated that although further growth will be needed in developing countries “the per capita resources and environmental capacity is lower in Asia than the rest of the world”. He cautioned against “building blindly” and redundant. He also said it is necessary to extend the life time of installations and to change the consumer concept. He concluded with “developed countries need to change their lifestyle”. So what is positive is that China understand the problem and they are using all sorts of technology to be less dependent on fossil fuel. With investments in hydro, wind and bio China intend to reduce from 74% to 67% fossil fuel up to 2020. The problem is that the total production will increase 2.5 times from 2007 to 2020.

Basically no-one in this large group of decision makers including the Chinese participants question the very concept of endless growth. Because if we were questioning our life style what were we doing in this casino. The speaker from Japan and Taiwan both came to the same conclusion. The only way to stop global warming is to build more nuclear power plants. But at the same time concluded that there is still the problem of waste. And of public opinion. So we are back in the old nuclear corner again.

Besides of all these older men like myself who was trying to solve the problem we had created by basically the same thinking and just more – such as nuclear power –but we actually had two female participants giving some interesting thoughts. Elena Virkkala , Director of Programs at the World Energy Council summarized the current energy policies as; “Ineffective and short-sighted. Confusing and unfocused. Inadequate to the scale of the issue.” She also pointed out that the 435 present nuclear reactors in the world are all very old and that the price of Uranium has increased 10-fold since 2000. Changhua Wu, Director for the Climate Group in China said their mission was : *“To analyze and accelerate government and business leadership on climate change to put the world on track towards a low carbon economy.”* To do so both women pointed out that a portfolio of technologies are needed. Nuclear, Carbon Capture and Storage (CCS) , Renewables and Energy Efficiency.

But the scary information was the magnitude of what was needed. 20 – 30 nuclear plants, 40 – 50 CCS plants, hydro power equal to Three Georges and Itaipu (The two largest hydropower plants in the world) , 400 Biomass plants, 20 000 – 30 000 wind plants, numerous solar and geothermal plants. PER YEAR!!! But the clean coal technology is not yet available if ever, the severe security and waste problems with nuclear still exist, wind has low efficiency and in USA they will start drilling for off shore oil outside Alaska when the ice melt away due to global warming. So where are the new ideas????

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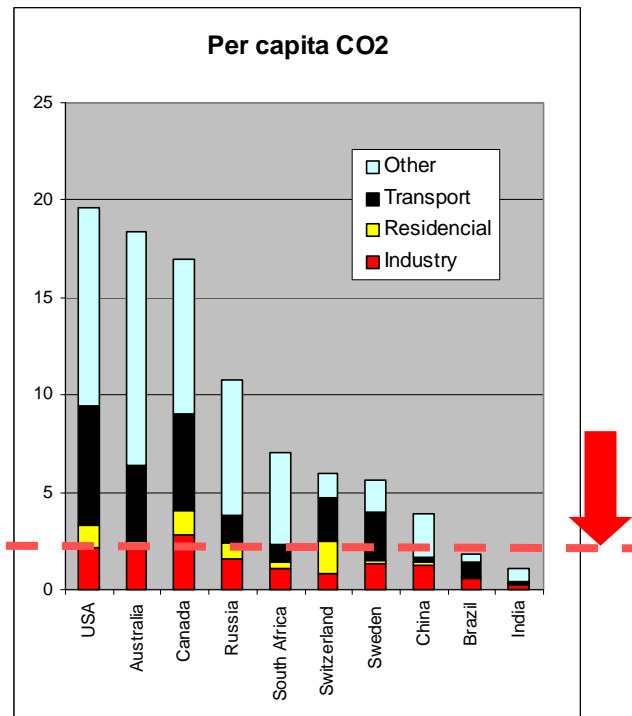
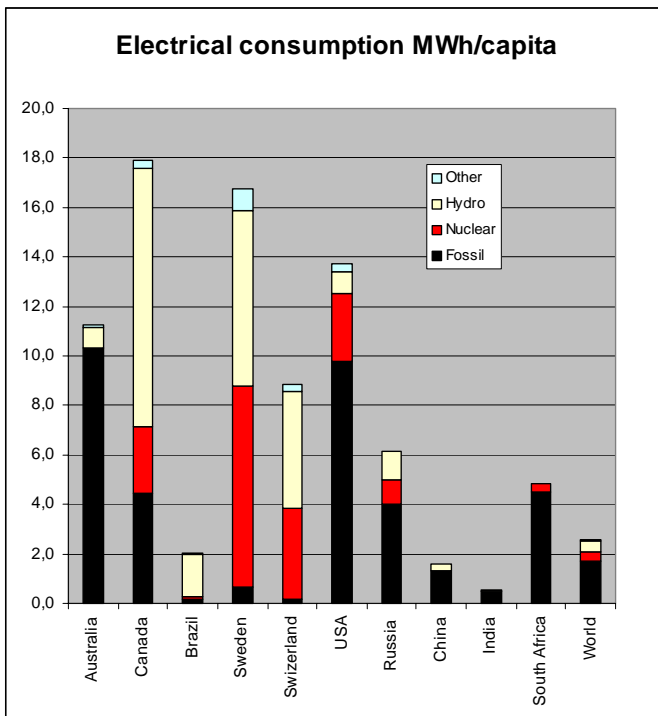
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The same old dilemma

We have the same old dilemma. The rich countries and especially North America has a very high electricity consumption and carbon dioxide emission per capita compared to the “developing” or “emerging markets”. So now these countries are expanding very fast like China and at the same time the power plants in the already developed world are getting old.

So we have two trends requiring new power. And at the same time we need to change to sustainable low carbon production. Our old and tired decision makers now comes up with the same old solution, Nuclear Power. But we have the same old problems of security and waste. And now also the increase in price for uranium. Have we been sleeping the last 30 years? Or does the establishment believe that “the public opinion” has changed. That a new generation has forgot the worries. Are we ready to embrace this old technology again and allow it to be built in the developing countries like Libya, Iran, Nigeria, Syria,....

Beside the old nukes the other old solution is fossil fuel with CCS – Carbon Capture and Storage. In principle the same as for nuclear waste. Let us hide the shit. Burry it in the ground or in the ocean. We act like the three monkeys – not see, not hear, not speak. When will we ever learn.....



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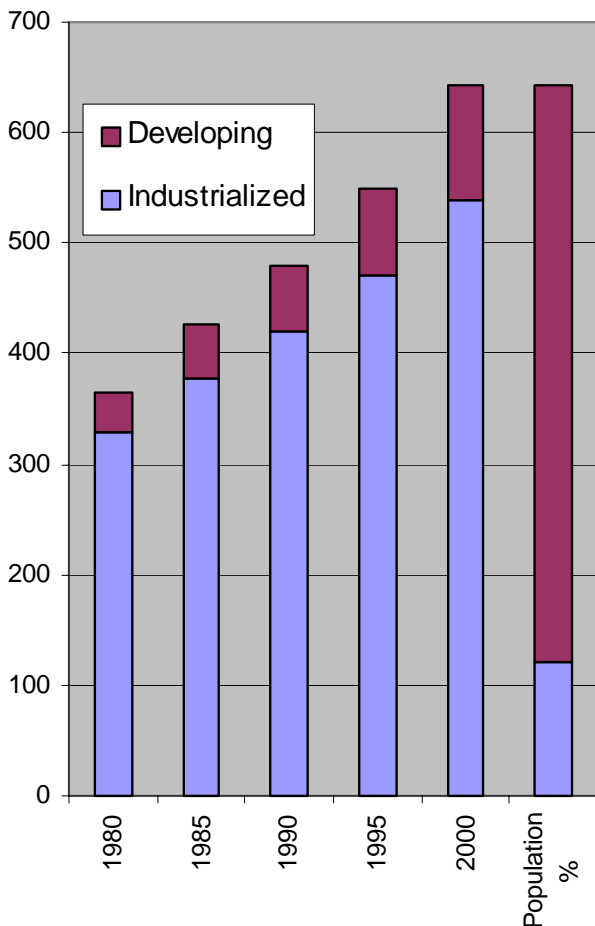
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The same old simple relations

We have been living in a polarized world. 20% of us living in the rich world have used 80% of the resources and caused 80% of the pollution. And now we have convinced the “emerging markets” to copy our way of living. The air conditioned casino economy.

Economy, Resources, Environment and our way of living are all connected. “You cannot have the cake and eat it.” There is no free meal.” Today we have around 600 million cars in the world. 2050 this is estimated to have increased to 2 billion cars. And each car need energy. So far fossil energy. So we need more electricity and power plants, we need to replace old power plants and we will triple the number of cars on earth requiring more fuel, more steel, more asphalt roads and streets, more parking garages,Today we have more than 4000 GW installed electrical generation in the world of which almost 3000 GW is fossil fuel. To replace this fossil fuel we need to build 3000 nuclear plants or 3 million wind plants.

Million of cars



Electricity GW



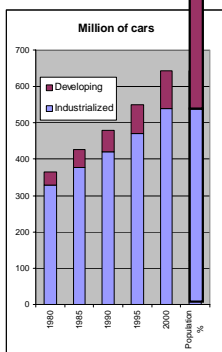
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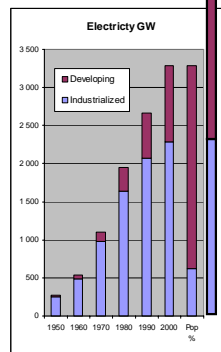
The mind shift

If we in the rich world continue to live as we are doing now, i.e. high consumption and travel and at the same time the “emerging markets” are copying our life style we will soon have destroyed our earth as we have know it to be. It is not possible just to substitute one energy source with another and believe that this will work. The problem is NOT only carbon and global warming. It is the very fundamental of exponential consumption that is basically eating up our common earth – GAIA.. When “public opinion” has been discussed during this conference it has been described as another problem. “How do we convince the mass to accept nuclear power?”. The challenge we now have is something fundamental. We need not only to change our way of living but our way of thinking. What is important for human progress – Gambling in a casino, mass consumption, spending hours in traffic jams or can we define a better quality of life. The mind shift is really a journey back to the future when we rediscover some of the fundaments for what humanity is.

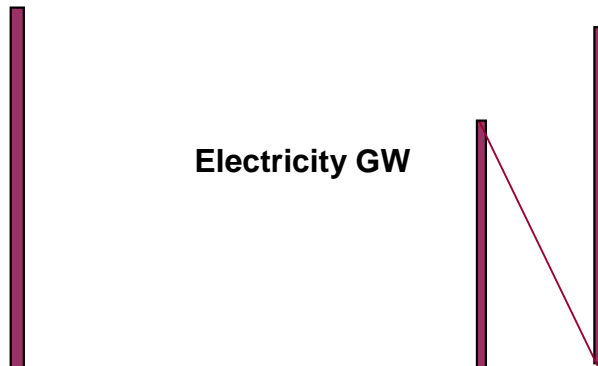
Milions of cars



Electricity GW



Electric cars



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Our common future

On the fourth day of this conference I have listened to some more decision makers from USA and Europe telling us how we can use IT, Information Technology to get a “smarter” energy system. If utilities, manufacturers and governments work together they can create an intelligent “market”. We have just seen the effects of deregulation and the fast moving money via Internet. When bonus driven young men are gambling about our money like in the casino down stairs. The decision makers and experts of the conference all say we have so much opportunities and yes we can solve global warming – but by implementing more of the same. Economy, Environment and Resources are all interdependent. And the fact is that both resources and environment has a limit and we are fast reaching this limit of growth. (The title of a book from 1972 that exactly predicted the CO2 content year 2000)

Naturally the same people and the same model that has created all these problems can not solve them even with IT. For this reason it is absurd to experience this air conditioned casino with all of us older men discussing how we should solve global warming. Yes, I have to correct this. There are women here to serve us and to clean our rooms and most of all the beautiful girls from the Miss International contest.....

It is also absurd to watch the news coverage from the most important election in the world of the US president. This has become an ugly and stupid spectacle that has nothing to do with democracy and facts. It should have been absolutely impossible for McCain and the Republicans to have the slightest chance to win after the total melt down of Bush politics with the failure in economy, war, social security and reputation in US and abroad. And especial the failure in environment protection and global warming. The largest deficit in history has “spread the wealth” to the already rich while destroying the environment and killing tens of thousands innocent people in Iraq and Afghanistan. If the “stupid white men” as Michael Moore call them once again win the white house we will face a dark future. Most of the world wish for Obama to win but even if he does there is a very long and difficult way to change the way of “the greatest nation in the world”. To really change we have to humbly understand that what we have been doing - our very way of life – has been wrong.

And imagine if the 4 trillion now being used to save the banks world wide had been used to solve the hunger for one billion people or create sustainable energy or a new sustainable model. Instead McCain now has launched another campaign supported by FOX that he is a better man to protect USA from one caveman Usama Binladen. Is this really the biggest problem right now??? It is very embarrassing for USA and democracy that 44% of the US population today supports McCain and his policy for fear and greed. We are facing the largest crisis ever – and it is not the financial crisis – it is the crisis of a life style consuming our only planet in an increasing speed. We need an unprecedented awakening to this crisis – a revolution, a global mind change. And to do so we need every thinking individual on the planet to be able to see through our failing media and leaders. We need a new leadership involving all organizations, ideas, religions etc. **And we need this NOW!**