

27.09.08: PV electricity and water treatment at remote sites in two weeks [1]

California based Envision Solar starts a self-contained electricity generation and water treatment system. The demonstration project named LifeVillage will start in the Côte d'Ivoire region of Africa and includes a solar powered electricity and water treatment structures that can provide between 1.5 and 4 kW of electricity and a water treatment. The whole system can be assembled and activated at remote sites in two weeks.

Envision Solar also builds solar-powered commercial parking structures. Its normal prices for carports range between \$8 and \$10 per watt. [2]

[1] Venture Deal: Envision Solar Launches Remote System. 26.09.2008
<http://www.venturedeal.com/News/2008/9/26/Envision-Solar-Launches-Remote-System>

[2] Greentechmedia: Driving on Solar Power. September 24, 2007
<http://www.greentechmedia.com/articles/in-brief-solar-charges-electric-cars-wal-mart-pushes-energy-savings-101.html>

20.09.2008: Cargill enters the biodiesel business using 75 percent of its rape oil [1]

Cargill and agri-food giant is known for commercialising soy bean in Brazil, using Santarem in the middle of the Amazon Regions as shipping port. It has now opened a huge new rapeseed plant in Montoir, near Saint Nazaire, France, with a capacity to process 600,000 metric tones of rapeseed per year.

The plant will produce 250,000 metric tones of rapeseed oil per year and 350,000 metric tonnes of protein-rich animal feed.

Twenty-five per cent of the oil is be destined for food use, and the vast majority of this will be used for French food production.

Diester Atlantique esther plant will process the oil to fuel.

The company argues that there is plenty of rapeseed available in France. No scarcity of oil for food is expected in the French market.

[1] Cargill opens rapeseed crush plant in Montoir, western France. 18. September 2008
http://www.cargill.com/news/news_releases/080918_montoir_eng.htm#TopOfPage

18.09.2008: Triple Hybrid Technology [1]

The triple hybrid technology vehicle combine hydrogen, ultra capacitors and batteries. The technology was developed by the University of Glamorgan Project together with Hydrogenics from Canada, Maxwell - Young's Electronics Group of San Diego and Japan's GS-Yuasa for battery technology.

The Hydrogen Bus equipped with the Triple Hybride Technology has a top speed of 55 mph, a range of range of 150 miles and can carry up to 16 passengers. Combining the three non-combustion power systems together, the triple hybrid technology provides a technology of the solution of carbon-free transportation.

The University explains that the fuel cell system provides the low to medium constant power delivery, whereas the lead acid battery provides medium constant power. Finally the ultra-capacitors delivery the massive, instantaneous power demands, which is ideal for high load acceleration and regeneration of braking power. Intelligent power switching methods then allow the charging strategy to be mapped to the fuel cell's optimal performance.

The minibus links the green campus of the University with the University's Renewable Hydrogen Research and Demonstration Centre at Baglan Energy Park near Port Talbot, which demonstrates the viability of hydrogen production from a range of indigenous renewable energy sources and evaluate the benefits of using hydrogen as an energy storage medium for these intermittent renewables.

The University says that hydrogen produced renewably can help to solve the energy problems of the 21st Century, providing a carbon-free fuel. [2]

[1] University of Glamorgan: Clean, Green Tribid Minibus - A First for Europe 11.06.2008
<http://fat.glam.ac.uk/news/en/2008/jun/11/CleanGreenTribidMinibus/>

[2] University of Glamorgan: Renewable Hydrogen Research and Demonstration Centre.
<http://serc.research.glam.ac.uk/renewableH2demo/>

10.09.2008: State funds, a new instrument for climate protection policy [1]

In the series of Wupertal Papers Dr. Danyel Reiche analyses the ethical criteria of Norwegian state fund investment policy.

According to Reiche Norway realised that the abundance of resources of oil, gas and electricity are finite. Therefore a sovereign wealth fund has been founded in the kingdom in 1990 to secure the nations economy in the post-petroleum era. Surpluses from the oil and gas industry sales have been invested, resulting in a capital of over 280 billion Euro (figures from 2007), becoming the second largest sovereign wealth fund on the world.

The fund should not only be for intergenerational justice, but should also contribute to the implementation of worth and norms of the present country. The fund should only have businesses in their portfolio which adhere to those ethical regulations.

The authors explain how the new corporate governance of the funds maximises profit and sustainability and how it becomes a new instrument of climate protection policy using as main instruments ethical regulations, "Active Ownership" and the exclusion of individual firms from the portfolio of welfare states, due to a breach of ethics. Exclusion from the investments of the Norwegian fund is being considered. The authors also analyse the takeover of the Norwegian regulations by other financial actors.

[1] Reiche, Danyel: Staatsfonds als neues Instrument der Klimaschutzpolitik? Eine Fallstudie am Beispiel von Norwegen als Pionier einer ethischen Kriterien folgenden Anlagepolitik. Wuppertal Papers Nr. 173 · September 2008 ISSN 0949-5266
http://www.wupperinst.org/de/publikationen/uploads/tx_wibeitrag/WP173.pdf

05.09.2008: Transmission Line [1]

US: The American southwest contains more than 250,000 square miles of land ripe for solar power generation, but the bigger challenge lies in transmitting that energy to the grid.

New Mexico, called "The Clean Energy State", is taking steps toward the export of clean power, becoming the first US state to form a renewable energy transmission authority (Reta) that provides financing for new high-voltage lines and towers.

According to the chief of New Mexico's Reta, Lisa Szot the average 345-kV power line costs \$1.5m per mile to lay. Other states like Texas, Nevada, and California have similar transmission initiatives.

Europe: Siemens connects the biggest offshore-windpark Great Gabbard situated in the North-Sea 25 kilometres away from the shore of Suffolk. The transmission line will cost 84 Mio. EUR. The whole 500 Megawatt (MW) project was developed by Airtricity und Fluor. Siemens achieved a turnover of 17 Billion EUR in 2007 connecting energy offshore-windparks with the continental grid and predicts a rise up to 21 Billion Eur for 2011. [2]

[1] Green energy blooms in the desert. guardian.co.uk, Tuesday June 24 2008
<http://www.guardian.co.uk/environment/2008/jun/24/energy.energyefficiency>

[2] Siemens bindet weltweit größten Offshore-Windpark ans Netz an Erlangen, Deutschland, 13. August 2008
<http://www.powergeneration.siemens.de/press/press-releases/power-transmission/2008/EPT200808054.htm>

29.08.2008: Daimler goes green and plans the production of 150 electric cars beginning in 2009 [1]

German car maker Daimler and electricity provider RWE want to build in Berlin and other European cities a grid of recharging stations for their Smart electric cars. In Berlin 500 recharging stations are planned. A 150 Km charge will cost 2 Euro. Production of the batteries is, however, very expensive and only in small number of units possible. Daimler plans a total production of 150 cars for the Berlin market beginning in 2009. A total of 1000 cars are planned for the model, which are to be distributed all over Europe.

[1] Spiegel Online: Öko-Offensive RWE und Daimler bringen Elektro-Smart auf die Straße. 29.08.2008
<http://www.spiegel.de/wirtschaft/0,1518,575120,00.html>

28.08.2008: Toyota says good by to oil [1] [2]

Katsuaki Watanabe says that Toyota will introduce a test fleet of several hundred plug-in hybrids using lithium ion battery packs. The PHEVs will go governmental, academic and commercial fleets in Asia, Europe and US for large scale field testing before eventually being made available to consumers. The lithium batteries will be coming from Toyota's joint venture with Panasonic which produces the current NiMH batteries used in the company's hybrids. With ready sale of his hybrid model Prius the company was able to reduce the price about 50 per cent. The Prius will be produced in Mississippi in substitution of high fuel consuming off-road vehicles and pickup cars. Prius moves on electricity with a combustion engine on board. The production of Toyota in Indiana will shift from cars to small transporters to respond to the shift in consumer demand from trucks to smaller fuel-efficient models.

[1] MiamiHerald.com: Toyota lowers 2009 global sales target. 28.08.2008
<http://www.miamiherald.com/business/AP/story/661920.html>

[2] Handelsblatt.com: Toyota arbeitet am Abschied vom Öl. 28.08.2008
<http://www.handelsblatt.com/news/default.aspx? t=ft& p=39& b=2028936>

25.08.2008: Fuel price will fall 70 per cent with new product from Butalco company covering 15 to 20 percent of German petrol demand [1]

Professor Eckhard Boles from the Institute for Molecular Bio Sciences of Frankfurt University developed an industrial process for the production of fuel from plant waste. He calls his product cellulosic ethanol. Boles uses genetic modified yeasts which can ferment

different sugars from cellulose of hay and other agrarian waste. The researcher claims that this procedure will reduce pressure which ethanol production exerts on food production and will cost only one third of other fuel. The price will be 20 Cent/liter before tax.

Butanol, the next goal: The Butalco company, founded by Boles will start its cellulosic ethanol pilot plant in less than 18 month. Research going on for 15 years aims to replace ethanol with butanol which has a higher energy density, can be use up to 100 per cent by the combustion engine, no change is necessary and it can be transported using existent pipelines. In 3 to 5 years Boles hopes to have yeasts genetic engineered to produce butanol for the fuel market.

Supplying 15 to 20 percent of German petrol demand [2]

Boles says there is no concern related to safety issues with the GM yeast because the process takes place in a closed circuit separated from the food sector. The raw material will come from local field crops but in the long term forest stocks will be used as the biomass, thus the Butalco process could deliver 15 to 20 per cent of the German petrol demand.

The GM yeast [3]

Boles and his team found that lignocellulosic biomass is considered to be an ecologically and economically ideal feedstock for the production of bioethanol. Hydrolysates hereof contain hexoses and pentoses. L-arabinose is, after D-xylose, the second most abundant pentose in lignocellulosic hydrolysates. Recombinant *S. cerevisiae* strains fermenting both pentoses to ethanol have recently been developed.

The team cloned a gene in the *Sacharomyces cerevisiae* enabling the yeast to ferment also L-arabinose.

Controversy on cellulosic ethanol [4]

Cellulosic ethanol is a biofuel produced from wood, grasses, or the non-edible parts of plants. According to U.S. Department of Energy studies conducted by the Argonne Laboratories of the University of Chicago, one of the benefits of cellulosic ethanol is that it reduces greenhouse gas emission by 85% over reformulated gasoline. By contrast, starch ethanol (e.g., from corn), which most frequently uses natural gas to provide energy for the process, may not reduce GHG emissions at all depending on how the starch-based feedstock is produced. A study by Nobel Prize winner Paul Crutzen found ethanol produced from corn, rapeseed (canola), and sugarcane had a "net climate warming" effect when compared to oil.

[1] Nachgefragt bei: Eckhard Boles: Treibstoff für 20 Cent pro Liter. Handelsblatt 24.08.2008
<http://www.handelsblatt.com/technologie/forschung/treibstoff-fuer-20-cent-pro-liter:2026688>

[2] New Energy. Magazine for Renewable Energy: Grass instead of oil. New Energy 2/08, April 2008.
<http://www.newenergy.info/index.php?id=1690>

[3] Keller M.; Boles, E.: Cloning of an L-arabinose transporter from the yeast *Pichia stipitis* and its functional expression in recombinant *Sacharomyces cerevisiae*. 3rd European Federation of Biotechnology Conference Physiology of Yeasts and Filamentous Fungi. 13-16 June 2007.
<http://www.vtt.fi/inf/pdf/symposiums/2007/S245.pdf>

[4] Wikipedia: Cellulosic ethanol.
http://en.wikipedia.org/wiki/Cellulosic_ethanol

1.07.2008: Electric cars used as energy storage, a rather exotic German idea [1]

Enercon, a small German wind mill builder, presented a strategy in cooperation with the Volkswagen Audi car maker.

The Lithium-Ion battery of Enercon prototype car provide a range of 150 km with a top speed of 130 Km/h. According to Enercon the batteries may be charged with low priced electricity at night, and resold to the grid at high price during daytime. Cars remain often unused and their batteries may thus be used as an energy storage of the local grid. Enercon wants to sell the necessary components to car makers. A car with a range of 150 km is of no use for general use. Without a complementary hydrogen range extend it will not sell. It is hard to believe that such exotic ideas of energy storage will ever solve the world climate and other pending global energy problems.

[1] Jeversches Wochenblatt: Enercon präsentiert E-auto als Zukunftslösung. Bundespräsident Köhler erfährt, dass die Firma den Antrieb bei serienreife selber produzieren will. Ostfriesland 17.07.2008

12.07.2008: New Organic arrays: Tandem Organic Solar Concentrators (OSC) may increase photovoltaic efficiency to exceed 20% without solar tracking [1]

According to Marc A. Baldo and colleagues the cost of photovoltaic power can be reduced substantially using organic solar concentrators. The authors developed planar waveguides with a thin-film organic coating on the face and inorganic solar cells attached to the edges. In this system light is absorbed by the coating and reemitted into waveguide modes for collection by the solar cells.

The near-field energy transfer, solid-state solvation, and phosphorescence, used by the authors, enable 10-fold increases in the power obtained from photovoltaic cells, without the need for solar tracking.

The authors stress that solar cells can be optimized for monochromatic and bifacial excitation, and the absorption spectrum should be expanded into the near infrared. The power efficiency of tandem OSCs may exceed 20%.

[1] Michael J. Currie, Jonathan K. Mapel, Timothy D. Heidel, Shalom Goffri, Marc A. Baldo: Science 11 July 2008: High-Efficiency Organic Solar Concentrators for Photovoltaics
Science AAAS. Vol. 321. no. 5886, pp. 226 – 228 DOI: 10.1126/science.1158342
<http://www.sciencemag.org/cgi/content/abstract/321/5886/226>

09.07.2008: Solar panel roofs mandatory in German cities [1]

The German cabinet adopted regulations aiming to a 40 percent reduction of carbon dioxide by 2020 compared to 1990 levels. This includes lowering electricity consumption in private homes. Vehicle tolls will be charged according to their emission. Strict energy efficiency standards for all new and renovated building will come into force in 2009.

Solar panel roofs

The German university town of Marburg approved a law which comes into force on October 1. It aims to reduce greenhouse gases and faces rising energy costs.

New constructions and roofs or heating systems which are being renovated have to be equipped with solar panels. A fine of 1.000 Euro must be paid if not complying with the law. Investments will amount 5,000 Euro which will pay-back by savings over 15 years. The shelf life of the panels is 25 years.

Another state, Baden-Wuerttemberg, requires new houses to meet 20 percent of their heating through renewable energies.

[1] Inhabitat.com: Historic German Town Laying Down the Solar Law
<http://www.inhabitat.com/2008/06/25/marburg-germany-laying-down-the-solar-law/>

06.07.2008: The IEA presents energy data for the G8 Summit 2008 in Japan [1]

According to the International Energy Agency investments of 45 trillion USD are necessary to stop further deletion of the climate. 1300 reactors have to be built until 2050 to back the 430 nuclear power plants existent by now. Additionally half of the energy needed must come from renewable resources such as sun and wind. 17.500 windmills have to be built each year.

IPCC says that the emission of greenhouse gases must be halved by 2050. However, Nobuo Tanaka, director of the International Energy Agency states that the global emission increased steadily.

Germany increased its subventions of the construction of new power plants with heat-feedback from 4,3 to 7,3 Billion Euro/year. Increasing wind power Germany hopes to reduce 40 per cent of the emission by 2040.

Meanwhile, Japan is planning to include nuclear energy to the final paper of the G8 Meeting. [2]

Solar energy from the Arabian deserts, together with hydrogen to replace petrol is a feasible and economic solution of the world energy crisis. [3]

[1] Internationale Energie-Agentur schlägt alarm: Klimaschutz kostet 45 000 000 000 000 USD. Süddeutsche Zeitung 7/8 Juni 2008.
http://files.globalmarshallplan.org/pr/kkm_0806.pdf

[2] Global Marshall Plan Initiative: 45 Billionen für den Klimaschutz. Rückkehr zur Atomkraft?
<http://content.globalmarshallplan.org/ShowNews.asp?ID=835>

[3] Desert Energy Project: A Global Sustainable Energy Proposal, The Arabian Desert Solar Energy Consortium.
<http://www.desertenergyproject.net/>

25.06.2008: Electrocar big flop.

Politicians like MacCain tries to profit from the electrocar wave promising a high award for the development of a small battery for Ecars. It is an enormous flop because it does not consider increasing prices of electricity. New power plants, running with dirty coal or other fossil sources and nuclear waste will lead to a deadlock.

Solar energy from the Arabian deserts may solve immediately the future demands for sustainable energy and provide a feasible solution for clean fuel for transportation.

24.06.2008: Radioactive waste leakage at the final disposal site in Wolfsburg, Germany.

Leaking barrels with high radioactive waste in a salt cavern in Germany in 700 meters caused a spill which may affect drinking water of the region. The site had to be closed because of the high radioactivity of the site affecting health of engineers.

Experts say that contamination of drinking reservoir of the nearby region Harz for the coming generation is very likely to occur.

Electricity from nuclear power plants is therefore a deadly choice for humanity.

22.06.2008: The conference at Jiddah brings no crude oil price relieve, forcing two scenarios

The price of crude oil remained high. Saudi Arabia tried to stop prices soaring announced to increase production of crude oil with no results.

On the eve of further difficulties on the energy market two scenarios are feasible:

Scenario 1: European countries such as Germany may cooperate with Arabian countries, founding a consortium for the production of solar electricity and hydrogen in the Arabian desert. The participating countries will profit from revenues of the export of electricity and hydrogen to Europe. The economic bonds between Europe and the Arabian countries will promote security and peace in the region.

Scenario 2: Europe is politically unable to start an alliance with the Arabian countries. In this case the Arabian countries may start the project on their own. This would leave the future of solar electricity and hydrogen in the hands of the Arabian world.

27.05.2008: Nanotubes Nanotechnology improving solar modules [1]

BP Solar, together with the California Institute of Technology, develop a new generation of highly efficient solar cells using silicon nanorods.

[1] BP Solar: Articles

<http://www.deutschebp.de/sectiongenericarticle.do?categoryId=9022984&contentId=7044691>

The Post Fossil Fuel Era

23.02.2008: Dubai starts the Post Fossil Fuel Era

UAE to build Gulf's first nuclear power plant [1]

The UAE, the No. 3 oil producer in the Middle East in August may build the first nuclear power plant in the Gulf as the country seeks to nearly double power production by 2010. According to Ahmad Al Darmaki of ADWEA, building a nuclear power plant is cheaper than buying natural gas to fuel power stations.

Dubai backs out of fossil fuel consumption and buys a nuclear power plant from France [2]

The UAE and France made an agreement on a joint cooperation in use of nuclear energy for peaceful, civilian purposes. Nicolas Sarkozy holds the view that countries have the right to use nuclear energy for peaceful applications as it considers the energy of the future. Sarkozy is pleased that the Emirate, under Vice President and Prime Minister of UAE and Ruler of Dubai His Highness Sheikh Mohammed bin Rashid Al Maktoum, will be the first country to have a fruitful cooperation with France in this field.

The nuclear power plant deal with UAE comes after a similar deal of a nuclear power plant between France and Libya under Muammar Abu Minyar alGaddafi.

Remember: Nuclear power is the oil of Western corporations. It creates dependence on uranium as fuel which will decay after 2030. It is not the very best solution.

The Uranium report [3]

Peak of uranium will be in 2030. At present, only 42 kt/yr of the current uranium demand of 67 kt/yr are supplied by new production, the remaining 25 kt/yr are drawn from stockpiles which were accumulated before 1980. Since these stocks will be exhausted within the next 10 years, uranium production capacity must increase by at least some 50% in order to match future demand of current capacity.

The energy to supply Europe with electricity and hydrogen as fuel for cars can be harvested from the solar energy of the Arabian deserts. The costs are extremely attractive compared with a fading technology of nuclear plants. 1 GW has an investment volume of 3 Billion Euro and produces electricity for 25 years for free, without any input. Solar energy of the Arabian deserts is for free and will work as long as earth will exist.

The Arabian corporation can start the production of electricity and hydrogen on demand beginning in 2009.

[1] UAE interact.com: UAE may build Gulf's first nuclear power plant. 14/09/2004

http://www.uaeinteract.com/docs/UAE_may_build_Gulf%E2%80%99s_first_nuclear_power_plant/13417.htm

[2] UAE interact.com: UAE France laying ground for joint peaceful nuclear partnership. 22.05.2008

http://www.uaeinteract.com/docs/UAEFrance_laying_ground_for_joint_peaceful_nuclear_partnership/30222.htm

[3] The Energy Watch Group: The Uranium and Nuclear Energy Report 2006.

http://www.energywatchgroup.org/fileadmin/global/pdf/EWG_Report_Uranium_3122006ms.pdf

22.05.2008: The Energy Watch Group predicts the decline of fossil and nuclear energy supplies

The Energy Watch Group Oil report 2007 [1]

The world oil production has peaked in 2006. Production will start to decline at a rate of several percent per year. By 2020, and even more by 2030, global oil supply will be dramatically lower. This will create a supply gap which can hardly be closed by growing contributions from other fossil, nuclear or alternative energy sources in this time frame. The world is at the beginning of a structural change of its economic system. This change will be triggered by declining fossil fuel supplies and will influence almost all aspects of our daily life.

The Oil reserves of the Middle East were estimated by the Industry Data Bank 679 Billion (IDB) Barrels.

However, the Energy Watch Group says the Middle East reserves are only 362 Billion Barrels.

Total world reserves of crude oil reach only 68 per cent of estimation of the IDB [2]

The Coal report March 2007 [3]

Production profile projections suggest the global peak of coal production to occur around 2025 at 30 percent above current production in the best case.

The Uranium report [4]

Peak of uranium will be in 2030 At present, only 42 kt/yr of the current uranium demand of 67 kt/yr are supplied by new production, the remaining 25 kt/yr are drawn from stockpiles which were accumulated before 1980. Since these stocks will be exhausted within the next 10 years, uranium production capacity must increase by at least some 50% in order to match future demand of current capacity.

[1] The Energy Watch Group: The Oil Report 2007.

http://www.energywatchgroup.org/fileadmin/global/pdf/EWG_Oilreport_Summary_102007.pdf

[2] The Energy Watch Group: Press Conference on 21. May 2008 in Berlin The decline of oil supply and the consequences. Oil price on record high.

<http://www.energywatchgroup.org/Press.6+M5d637b1e38d.0.html>

<http://www.spiegel.de/wirtschaft/0,1518,554587,00.html>

[3] The Energy Watch Group: The Coal Report 2007.

http://www.energywatchgroup.org/fileadmin/global/pdf/EWG_Report_Coal_10072007ms.pdf

[4] The Energy Watch Group: The Uranium and Nuclear Energy Report 2006.

http://www.energywatchgroup.org/fileadmin/global/pdf/EWG_Report_Uranium_3122006ms.pdf

21.05.2008: Oil Price climbs to 135 Dollar/barrel

Goldman Sachs predicts a price of 200 Dollar /Barrel in less than 6 month.

Meanwhile German car maker continue to built fossil technology driven giant cars disregarding all signs of new technologies. It is amazing to see high payed CEOs hiding their heads in sand.

The German and the European government should activate projects like DESERTE which could bring solar electricity to europe in 10 years, or even der Arabian Desert Solar Energy Consortium which may start production of electricity and hydrogen for Europe in 2009. Hydrogen for cars is the technology for environment and may reduce the pressure on crude oil.

06.05.2008: Indonesia considers to quit the OPEC [1]

Indonesia considers to withdraw temporarily its membership at the OPEC. Indonesia's president declared that the wells are running out and there were decades of declining investments. The country became an oil importer after the oil production of 1.5 million to 1.6 million barrels a day in the mid1990s fell now to less than 1 million barrels a day.

[1] Herald Tribune Asia Pacific: Indonesia considers temporarily pulling out of OPEC. 06.05.2008

<http://www.iht.com/articles/ap/2008/05/06/asia/ASFINIndonesiaOPEC.php>

04.05.2008: The Temperature forecast LeibnizInstitute for Marine Sciences in Kiel [1]

Mojib Latif, a professor working at the LeibnizInstitute for Marine Sciences in Kiel (IFMGEOMAR), together with the MaxPlanck Instituts (MPI) in Germany developed a climate model in 2008 which forecasts that in the next ten years temperatures will not rise as much as predicted by the IPCC This will be caused by natural climate variations in the North Atlantic and tropical Pacific which temporarily offset the projected anthropogenic warming. The authors warn, however, that after this period temperatures will rise again.

[1] Keenlyside, N. S., Latif, M.; Jungclaus, J.; Kornblueh, L. ; Roeckner, E.: Advancing DecadalScale Climate Prediction in the North Atlantic Sector. Nature, 453, 8488. 2008.

<http://www.nature.com/nature/journal/v453/n7191/full/nature06921.html>

04.05.2008: The McKinsey report says that IT data centres have rising energy

According to a study by McKinsey the world's data centres will surpass the airline industry as a greenhouse gas polluter by 2020.

Solar electricity from the desert may supply all energy needed with a zero emission.

[1] McKinsey Report 2008 on IT energy demand

<http://uptimeinstitute.org/content/view/168/57>

06.03.07: Sustainability Conference at London: Rush for biofuels threatens starvation on a global scale [1]

According to Professor Beddington at a conference on sustainability in London in 06.03.08 cautioned that shoppers in the United Kingdom will have to faced big price rises because of the soaring cost of feeding livestock resulting from the rush towards biofuels. Other speakers said at the conference that it will not be possible to grow enough crops to produce renewable energy and at the same time meet the enormous demand for food.

Solar fuel [2]

Instead of building on environment unfriendly biofuel the European Union should support projects in the desert of northern Africa and the Arabian peninsula. Solar electricity can supply all Energy needed to get Europe moving on without any harm to nature. Hydrogen from water hydrolysis will be the solar fuel for the future

[1] Soil Association: Rush for biofuels threatens starvation on a global scale. Today's News. 07.03.2008

<http://www.soilassociation.org/web/sa/saweb.nsf/70423e6225bf43988025718c0048b5c0/c7dfbc16fa54b30480257405003ce131!OpenDocument>

[2] Desert Energy Project

<http://www.desertenergyproject.net/>

16.02.2008: Direct production of hydrogen by Solar energy using titania as catalyst [1]

Nanoptek has developed a new way to make hydrogen from water using solar energy. The company says that its process is cheap enough to compete with the cheapest approaches used now, which strip hydrogen from natural gas, and it has the further advantage of releasing no carbon dioxide.

The technology uses titania, a cheap and abundant material, to capture energy from sunlight. The absorbed energy releases electrons, which split water to make hydrogen. Other researchers have used titania to split water in the past, but Nanoptek researchers found a way to modify titania to absorb more sunlight, which makes the process much cheaper and more efficient.

Efficient hydrogen production by hydrolysis of water using solar energy solves the fuel problem for clean transportation. The battery driven cars have to be recharged every 50 kilometer (26 miles) Mrs. Agassis world will have a short action radius. Hydrogen driven cars, already running in Germany and in Norway have a radius of 300 and more kilometers. The unending solar energy of the deserts eliminates doubts concerning efficiency of transformation.

[1] Technology Review: Cheap Hydrogen. A new process uses sunlight and a nanostructured catalyst to inexpensively and efficiently generate hydrogen for fuel. By Kevin Bullis. January 31, 2008.

<http://www.technologyreview.com/Energy/20134/>

16.02.2008: Project Better Place by Shai Agassi

The project wants to save the climate, bring peace and solve the global energy crisis by switching to electric driven cars. Petrol stations will change low charge batteries with new ones. It is not feasible for wide regions of heavy traffic and trucks on the highway.

Mr. Agassi is focused exclusively on electric driven cars. To cope with the global energy crisis a mix of different technologies will be necessary. Hydrogen from solar energy will be one of these technologies. Hydrogen solves the problem of energy storage. Cars can be refilled in less than 5 minutes. The environment impact of the recycling batteries is avoided.

12.02.2008: The Masdar Initiative [1]

An Arab lesson to the world regarding environment and climate protection

In April 2006 Abu Dhabi started a project of renewable and sustainable energy technologies with engagement in the search for solutions to some of mankind's most pressing issues: energy security, climate change and truly sustainable human development. The Masdar city will be built with a planned cost of 22 billion Dollars. The city will be powered by wind and solar energy. Revenues from selling carbon credits from the Emission Trading Schemes.

Looking forward, Masdar will continue to look for opportunities to invest in and develop technologies across solar, wind, hydrogen, carbon reduction, green design and higher education.

In February 2008, Masdar will break ground of the world's first zero carbon, zero waste, car free city. The city, growing eventually to 1,500 businesses and 50,000 residents, when completed in 2016, it will be home to international business and top minds in the field of sustainable and alternative energy.

[1] The Masdar Initiative

<http://www.masdaruae.com/>

03.01.2008: Eon will invest 3,9 Billion Euro in Sweden

Eon is coproprietor of the nuclear power plants of Ringhals, Forsmark and Oskarshamn, which produce 50 per cent of electricity in Sweden. Eon plans to build more nuclear power plants, one in Finland, but will also invest in biofuel, gas and windmills.