

# SUSTAINABLE ENERGY NEWS

Newsletter for **INFORSE** International Network for Sustainable Energy.

No. 52, March 2006

## Energy Strategies in G8, EU & CSD - Black or Green ?

Renewables in  
Bulgaria, Georgia,  
Bangladesh,  
Hawaii, California



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**INFORSE**

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**Photo on the front page:**

Visit at a wind mill park in Copenhagen during an INFORSE-Europe Sustainable Energy NGO Seminar. Photo by Judit Szoleczky.

# A Worldwide Energy Transition Is Needed, But...

The need for a shift away from the current unsustainable energy systems has never been greater. Proof of man-made climate change continues to be reinforced; day by day the number of examples of harmful effects of climate change increases. The supply of fossil fuels – of oil in particular – is becoming increasingly expensive, and the global security of energy supply deteriorates as the number of countries depending on energy imports increases from year to year. If we want sustainable future development, to meet poverty reduction goals and to avoid unpleasant surprises, we have to change the energy path, and start a large-scale transition away from fossil fuels.

This spring, energy supply is at the top of the agenda in the EU, at the G8 meetings, in the USA, and at the UN Commission for Sustainable Development (CSD). While the CSD theme is based on past decisions, the energy priorities in the EU, G8, and the USA are based on recent political concerns. There is an increasing political will to address the problems, in particular to rebuild security of energy supply. Unfortunately, the ideas currently discussed among the big powers are heavy investments in conventional energy supply: increases of gas and oil infrastructure, supplemented with all other possible options: nuclear, coal (eventually with carbon capture and storage), renewable energy, and energy efficiency. Basically, we are seeing investments in more of the same solutions that have created the problems that we face today. There is a big chance that this will be a missed opportunity for major changes to sustainable energy systems, based on stabilisation of the global energy consumption with energy efficiency and on a large-scale change from fossil to renewable energy sources.

Fortunately there is another way. It is not a law of nature that energy consumption should continue to increase in the developed world in the coming years, as estimated by the International Energy Agency and the other “business as usual” analysts. In a number of industrial countries, energy consumption has been stable for one, two or even three decades, even in periods of permanent economic growth and without continuous policies for energy efficiency

during these periods. It is also well proven that for most sectors technologies already exist that require only ¼ or less of current energy use for the same energy services in the form of heating, cooling, transport, etc. If the efficient technologies were introduced on a large scale, they would be only slightly more expensive than the inefficient alternatives. It would be highly cost-effective to introduce the efficient solutions within one to three technology-generations, i.e., 5-15 years for IT equipment and 10-30 years for most appliances, industrial equipment, and vehicles. Similarly, renewable energy has seen remarkable growth in many countries in recent years, becoming a major energy source in some countries. Renewable energy solutions are also becoming more cost-effective, with windpower and biomass technologies in the lead and with solar close behind.

A paradigm shift is needed among world leaders to set renewable energy and energy efficiency in the front when allocating resources to reduce energy-supply problems as well as environmental problems. There is also a need for a change of attitude among leaders and analysts alike: they should start to see global energy consumption not as a permanent growing creature that they have to feed with enormous new investments, but as a service to mankind that should be used as efficiently as possible.

To illustrate a sustainable energy path, INFORSE has put forward its Sustainable Energy Vision 2050 for a transition to sustainable energy, leading to a world where over nine billion people on the earth in 2050 can use renewable energy efficiently and achieve more comfort than today. Now the vision also includes examples on how a number of countries as well as the EU can make a transition decade-by-decade to sustainable energy within the coming 25-50 years, respecting sustainability criteria, such as the limits for using biomass sustainably.

Gunnar Boye Olesen, INFORSE

# Energy and Global Sustainable Development

## INFORSE at CSD in May 2006 Vision 2050 Side Event



By Gunnar Boye  
Olesen, INFORSE

Energy will be the main theme for the 14<sup>th</sup> and 15<sup>th</sup> sessions of the UN Commission for Sustainable Development (CSD) to be held on May 1-12, 2006 and May 2007, respectively, in New York. INFORSE is actively participating in the process, in cooperation with a number of other NGO networks.

The 2006 session is a review. INFORSE will focus on successes in renewable energy and in energy efficiency, as well as on the large potentials of these sustainable energy solutions in meeting global demands for energy services.

As part of its activities, INFORSE will present its Vision2050 for a global transition to sustainable energy by 2050. The network is preparing a side-event for this purpose.

### We Need Increased Global Cooperation

In addition to reviewing the situation, it is also important to prepare new initiatives and changes of unsustainable practices. The proposals for global cooperation on energy efficiency can lead to an important increase in energy efficiency because goods and designs are often traded globally. This is why INFORSE supports the idea of increased global cooperation in energy efficiency field, with development of progressive global standards for energy efficiency and with increased focus on energy efficiency in international cooperation and lending. The cooperation should go beyond this and include a rapid phase-out of environmentally harmful energy subsidies. INFORSE also supports the development of a global organisation for sustainable energy.

INFORSE will develop proposals and documentation in cooperation with other NGOs before and during CSD. Follow these developments via the CSD section at [www.inforse.org](http://www.inforse.org), and see <http://www.un.org/esa/sustdev/csd/>



Posters illustrating the INFORSE Sustainable Energy Vision 2050.

## Sustainable Energy Watch Indicators to CSD



By Laura E.  
Williamson, and  
Helene Connor  
(photo)  
Helio International,  
INFORSE member.

As input to the 14<sup>th</sup> session of the Commission for Sustainable Development (CSD), HELIO International is coordinating the production of a series of reports on the current state of energy policy and development. Respected academics and other experts in the energy field have monitored progress in achieving sustainable energy development against HELIO's eight indicators.

HELIO's *Sustainable Energy Watch* indicators provide a simple but robust tool for the measurement of progress. The indicators monitor the evolutions of environmental impact from the energy sector, the most relevant pollutants in a country, a population's access to electricity, investment in clean energy jobs, security and trade in energy, public sector investment in renewables and energy efficiency, and progress in technology as measured by energy productivity and deployment of renewable energy.



This 2006 series covers twenty countries<sup>1</sup> and one region. The twenty countries represent an important cross-section globally: ten are from low-income economies, four from lower-middle-income economies, three from upper-middle-income economies, and three from high-income economies. The European Union was studied as a whole because Europe is one of the main drivers in policies to promote sustainable energy and its impact is felt well beyond its borders.

Preliminary assessment of the reports indicates that progress since the last HELIO report series in 2002 is weak or in reversal in many parts of the world.

*These reports will be launched in May 2006, both virtually and at the UNCSD. It will be accessible on-line at: [www.helio-international.org](http://www.helio-international.org).*

*For more information about this project or our work in general, please email us at: [helio@helio-international.org](mailto:helio@helio-international.org).*

<sup>1</sup> The twenty countries are: Bangladesh, Benin, Brazil, Burkina Faso, Cameroon, China Democratic Republic of Congo, France, Haiti, India, Iran Laos, Mali, Mexico, New Zealand, Republic of South Africa, Russian Federation, Tanzania, Tunisia and the United States.



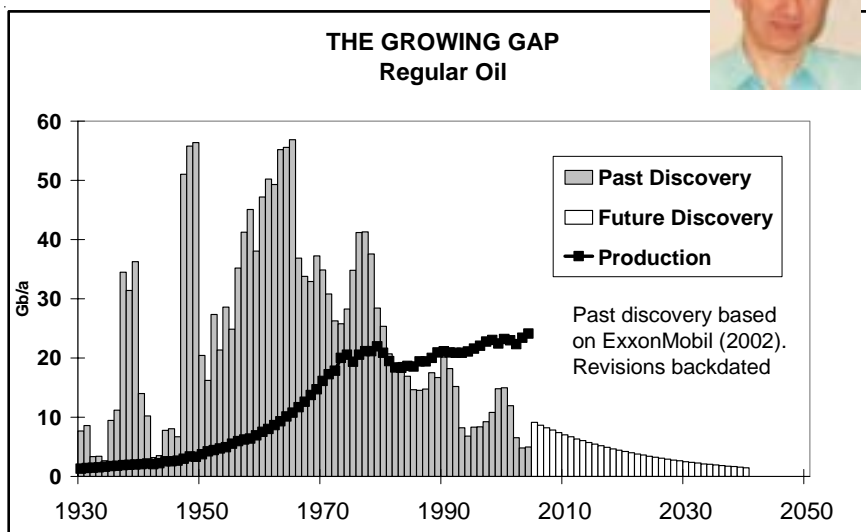
# Oil Peak Is Just Around the Corner - What Goes Up Must Come Down

By Emil Bedi,  
INFORSE-Europe  
Coordinator



The US Government's Energy Information Administration and many other influential financial analysts are predicting that oil prices will remain high during 2006-2007. Three years ago, all of them, even the mighty International Energy Agency (IEA), predicted prices between 20-35 USD per barrel. Now their assumption stands at 60-63 USD and even higher; Goldman Sachs says the price will reach 105 USD per barrel in four years. Is it just a game of financial speculators, is it an effect of Hurricane Andrew, or is there something more fundamental behind the current state of oil production?

**Let's start with some basic facts:** Oil demand grew during 87 out of the last 100 years. Half a century ago, world consumption stood at 4 billion barrels of oil per year and the average discovery of new oil was around 30 billion barrels per year. Today we consume 30 billion barrels per year and the discovery rate is dropping toward 4 billion barrels per year. In every one of the last 20 years, the world consumed more oil than was found in new oil fields. All of the one hundred or so super-giant oil fields that represent about half of the world production were discovered during the period 1940-1970. Now, 54 of the 65 largest oil-producing countries in the world have seen continuous declines in their production rates, despite record high oil prices (which should stimulate investment and growth) and



new technologies. According to Chris Skrebowski, editor of *Petroleum Review*, a magazine published by the Energy Institute in London, conventional oil reserves are now declining by about 4-6% a year worldwide.

**What does it all mean?** Oil is still in many ways the most important fuel; but the growth of oil production is coming to an end. Given the growing gap between new oil finds and world oil consumption (see the figure), it is likely that the world very soon will reach a turning point past which global oil production will decline irreversibly. This turning point, the oil peak, is caused by unavoidable geologic factors.

It happens to all oil fields and can't be stopped by spending more money. It does not mean that oil supplies are depleted; it does mean that growth is over and is likely to be followed by production decline.

Reaching a peak in oil production has the potential to destroy the global economy, causing great social and political unrest. The world will soon face the real threat of new conflicts over oil as emerging economies are competing with developed countries for scarce resources to feed their growing economies.

**The world urgently needs a "Plan B" for our energy-thirsty economies.**

*The graph is from ASPO Newsletter No 60. Dec. 2005, [www.peakoil.ie](http://www.peakoil.ie).*

## G8 vs Civil G8



By Andrei Konechenkov,  
INFORSE-Europe &  
REA, Ukraine & editors.

Whereas the G8 countries focussed on renewable energy at their Gleneagles Summit in 2005, this year's G8 discussions on global energy security are so far setting new investments in fossil fuels at the top of the agenda. They also discuss renewed promotion of nuclear power.

There is still some time before July 16, when the G8 summit in St. Petersburg concludes on the security-of-supply theme. If the current proposals are not changed, however, the G8 focus on energy will lead to increased investments in fossil-fuel supply as a first priority, based on a firm commitment to increasing energy consumption.

Hopefully, someone will tell the G8 leaders before July that increased energy consumption combined with increased fossil and nuclear energy use is neither inevitable nor desirable. There are better ways.

### “Civil G8”, or How NGOs Made Recommendations to G8 Governments

Consultations with NGOs have become a tradition in the preparatory stage of G8 summits. This year an important consultation was organised as the “Civil G8-2006” conference in Moscow on March 9-10 with almost 400 NGO representatives, mostly from Russia.

The largest workshop was on energy security. In its first phase, workshop participants expressed their understanding of the problem and formulated questions addressed to sherpas (sherpas are government representatives preparing ideas and proposals for G8 leaders to the summit).

The second phase was for preparation of NGOs' recommendations to G8 leaders.

Many NGO activists insisted on nuclear-free development and on ending government subsidies for nuclear power. Opinions differed on this point. Some participants were not interested in the nuclear-free scenario. There were few of them but they were appointed (without any agreement from participating NGOs) as workshop chairmen. Thus, they did a great deal to lead all discussions into a dead end. Consensus was reached only regarding renewable-energy development. As a result, the final document presenting Civil G8 recommendations to G8 governments on the critical topic of energy security failed to be concluded.

*Read the full INFORSE report and proposals: [www.inforse.org/europe](http://www.inforse.org/europe),  
Read the official site: [en.g8russia.ru](http://en.g8russia.ru).*

# CherNObyl+20: Nuclear Power is NOT Safe, NOT Clean, and NOT Cheap

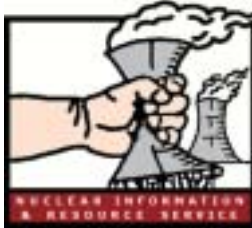
Twenty years ago on April 26, 1986, the explosion of Reactor No. 4 at the Chernobyl nuclear power plant in Ukraine marked a new era in the mindset related to nuclear energy. Our remembrance of the catastrophe is intended not only to highlight the very poor conditions in which many affected people still have to live, but also to use it to make the message heard:

*“Nuclear power is not safe, not clean, and not cheap.”*

This is of vital importance, especially nowadays, when some countries are considering new and renewed nuclear power plants. Several events are planned for the anniversary.

Where will YOU be on April 26, 2006?

CHERNOBYL  
REMEMBRANCE FOR THE FUTURE +20



**wise**  
World Information Service on Energy



## Events:

### An International Conference, Kiev, Ukraine

The conference - “*Remembrance for the future*” - will be held on April 23-25th in Kiev, Ukraine. There, independent scientists, environmentalists, NGO organizations, sustainable-energy experts and a broad public audience will examine the continuing health, social and economic consequences of the Chernobyl accident. In addition, the meeting will draw renewed attention to the proven potential of sustainable energy technologies and to the need for widespread implementation.

More information: <http://www.ch20.org>, Tetyana Murza, Ecoclub, Ph: +380 362 237024, e-mail: [tanyam@nirs.org](mailto:tanyam@nirs.org)

### Photo-Documentary Publication & Exhibition

The photo documentary - “*Chernobyl - 20 Years, 20 Lives*” - follows twenty people in their daily lives today and reflects on how those lives were changed directly or indirectly by the Chernobyl catastrophe twenty years ago in 1986.

The project is launched by Earth-Vision, which is an independent photo agency. The material is in English, and it is under translation to several languages (e.g., Danish, German, Dutch and Russian). Translators and organisations who would like to host the exhibition can contact: Mads Eskesen, E-mail: [20years.20lives@gmail.com](mailto:20years.20lives@gmail.com).

More information: [www.earth-vision.biz/20lives/](http://www.earth-vision.biz/20lives/).

### Signature Campaigns

- **Sign the European Petition demanding the exit of nuclear power.** This campaign was launched in 2004 to collect 1 million signatures to stop and/or to prevent nuclear action. The current number of signatures is: 276, 640 (March 2006).

Info: [www.atomstopp.at/1million](http://www.atomstopp.at/1million)

- **Sign the Petition for a Sustainable Energy Future, letter to the Members of the United States Congress.** The current number of signatures is: 3,370 (March 2006).

Info: [www.nirs.org/petition/index.php?r=sb](http://www.nirs.org/petition/index.php?r=sb)

### More Events:

World Information Service on Energy (WISE) and Nuclear Information and Resource Service (NIRS) gather events related to the Chernobyl's disaster. WISE/NIRS can be contacted in Argentina, Austria, Czech Republic, India, Japan, the Netherlands, Russia, Slovakia, Sweden, Ukraine, South Africa, and USA.

More information: [www.antenna.nl/wise](http://www.antenna.nl/wise), and [www.nirs.org](http://www.nirs.org)

Ph: +31 20 612 6368, Fax: +31 20 689 2179, E-mail: [wiseamster@antenna.nl](mailto:wiseamster@antenna.nl).

## Pandora's Box

„Chernobyl is a word we would all like to erase from our memory. It opened a Pandora's box of invisible enemies and nameless anxieties in people's minds, but which most of us probably now think of as safely relegated to the past. Yet there are two compelling reasons why this tragedy must not be forgotten:  
First, if we forget Chernobyl, we increase the risk of more such technological and environmental disasters in the future. Second, more than seven million of our fellow human beings do not have the luxury of forgetting. They are still suffering every day, as a result of what happened in 1986. Indeed, the legacy of Chernobyl will be with us, and with our descendants, for generations to come ...”

“... At least three million children in Belarus, Ukraine and the Russian Federation require physical treatment (due to the Chernobyl accident). Not until 2016, at the earliest, will we know the full number of those likely to develop serious medical conditions.”

Kofi Annan

# Preparing New Energy Policies: EU Green Paper & EU Ministers

## EU Update

Edited by Gunnar Boye Olesen,  
INFORSE-Europe



The EU system is in full swing, preparing new energy policies with a Green Paper released by the EU Commission on March 8, 2006, and the support of the energy ministers for the development of a new energy policy March 14, 2006.

Currently too much emphasis is placed on new fossil-fuel infrastructure, from gas lines and gas storages to new LNG facilities and new power plants. The EU Commission and some countries are also bringing into the debate proposals for more nuclear power and "clean coal" with CO<sub>2</sub> capture and storage. Renewable energy and energy efficiency are part of the discussions, but not to the extent proposed by INFORSE-Europe and many others.

The discussions continue with a prime ministers' meeting (Summit) March 23-24, an energy ministers' meeting in June, and with development and implementation of all the elements of the new policies.

The new policy will be based on the three objectives of security of supply, competitiveness, and environmental sustainability.

### Security of Supply Highest on the Agenda

Of the three objectives, security of supply is highest on the agenda. The energy ministers stressed at their meeting on March 14 that this is the primary responsibility of the countries, and that they propose to promote indigenous energy sources (by which is meant coal, renewables, and sometimes also nuclear) and energy efficiency. The EU Commission, in addition, proposes a European energy supply observatory, along with increased cooperation between network operators to assist any EU country with supply problems. Both the ministers and the Commission agree to increase emphasis on foreign policy with more dialogues between neighbouring countries as well as with renewed dialogues with Russia and large energy-consuming countries. The aim is to diversify suppliers and transport routes of energy imports, with emphasis on gas infrastructure such as LNG terminals in ports. It is also proposed to speed up the South East European energy market (gas and electricity) and to expand it to more countries. For foreign policy, a global agreement has also been proposed with standards for energy-consuming equipment.

### Sustainability Remains

The sustainability issues of environment, climate change and resource depletion remain a priority.

The Commission and the ministers agree on the need for an ambitious energy-efficiency action plan with special measures for transport; continued promotion of renewable energy beyond 2010 with the proposals from the Biomass Action Plan (December 2005), on reducing of barriers for renewable energy and ensuring stable support mechanisms; and to improve the EU Emissions-Trading Scheme.

The Commission specifically calls for a 20% energy-efficiency target by 2020, use of financial instruments such as Structural Funds for energy efficiency, EU-wide white-certificates trading (certificates of energy efficiency achievements), a Renewable Energy Roadmap with renewed efforts to reach RE targets, consideration of new renewable-energy targets after 2010. It also has a more controversial proposal of increasing R&D in carbon capture and storages (CCS) technologies as well as support for large-scale CCS demonstration programmes.

### Competitiveness Comes In

Competitiveness is an overarching objective of all EU policies. The ministers and the Commission agree that this should be achieved by strengthening the internal energy markets, assuming that this will reduce energy prices. The proposals include increased cross-border exchange, completing the legal market frameworks, improved regulatory consistency across Member States, and enhanced coordination between regulators and system operators. There is also agreement on improved investment planning and on investment coordination.

In addition, the Commission proposes a European grid-code, a European energy regulator authority to deal with cross-border trade issues, a priority interconnection plan, and a regulatory framework to stimulate investments in power plants.

Both the ministers and the Commission call for increased energy efficiency; but seem to forget that making the EU countries energy-efficient is an essential part of future competitiveness.

### Crucial Debate Ahead

Both the Commission and the ministers call for a Europe-wide debate on energy policy. The Commission wants to debate problems of high reliance on gas, such as phasing out nuclear power and replacing it with natural gas power. Certainly there is a need for a debate; but it must also include problems of nuclear power, opportunities for faster introduction for renewable energy and energy efficiency, and the limitations of fossil fuels.

Follow the debate and the development of the policy at [www.inforse.org/europe/eupolicy.htm](http://www.inforse.org/europe/eupolicy.htm).



## New Directive on Energy Services

On March 14, 2006, the EU energy minister adopted a new directive on end-use efficiency and energy services. It sets indicative energy-efficiency targets, demands development of national energy-action plans, and requires energy suppliers to work on energy efficiency.

The targets are a 9% increase of energy efficiency in nine years, divided into three three-year periods. The national action plans for the first three-year period should be ready by June 30, 2007.

The energy-efficiency targets are defined as energy efficiency resulting from specific energy-efficiency measures taken by the countries and by energy suppliers.

INFORSE-Europe urges the EU countries to strengthen the energy-efficiency target in the implementation of the directive, and to integrate energy efficiency in the energy markets by introducing schemes by which a small levy on the electricity price is used for consumer information and for promotion of energy efficiency.



## Biofuel Discussion

On February 8, 2006, the European Commission proposed an EU Strategy for Biofuels (communication COM(2006)034), addressing the slow development of biofuel use in transport and the sustainability issues of biofuel production, in particular of imported biofuels. In the biofuels directive from 2002, an indicative target was set of 2% renewable energy in transport fuel by 2005, but the 25 EU countries only achieved about 1.5%. The new strategy calls for:

- Revision of the biofuels directives from 2002 with targets and sustainability criteria for biofuel production.
- Promotion of second-generation biofuels: liquid biofuels from solid biomass and organic waste.
- Support for biofuels should depend on their greenhouse-gas reduction potentials.

The EU agricultural ministers discussed the issue on February 20. In their conclusions they asked the Commission to ensure that adequate incentives are provided for the development of energy crops; currently, the EU's support for energy crops is well below most other EU agricultural support. The agricultural ministers also requested that the demand and supply of biomass should be monitored, including feedstocks for competing industries; the paper and soap industries are worried about competition from the energy sector for, respectively, wood and vegetable oil.

*INFORSE-Europe and other NGOs are currently discussing biofuel issues, including sustainability criteria.*

## Climate-Review

Currently, the EU Commission is reviewing the EU's climate policies within the European Climate Change Program (ECCP) and is planning new actions. A number of working groups are reviewing results of the previous ECCP, developing proposals for new areas such as aviation and CO<sub>2</sub> capture and storage. Results will be presented after the final sessions of the working groups, April - June 2006, and will be published in a communication from the Commission. EU Emission Trading is dealt within a special group with a later deadline. INFORSE-Europe is participating in the review together with Climate Action Network-Europe.

*The review, including NGO positions, are online at [forum.europa.eu.int/Public/irc/env/eccp\\_2/library](http://forum.europa.eu.int/Public/irc/env/eccp_2/library).*



## UK Energy Review

The United Kingdom is currently in the middle of a national Energy Review that ends in mid-April. The government has issued a consultation paper about the future of the country's energy supplies and is inviting comments, available at [www.dti.gov.uk/energy/](http://www.dti.gov.uk/energy/).

Among the options that have been widely canvassed by some government ministers from Tony Blair downwards is a significant increase in electricity generation by nuclear power, which is claimed to cut CO<sub>2</sub> emissions.

The East Anglian Safe Energy Alliance is co-ordinating responses to the consultation, and has just launched a new website at [www.newnuclearpowernothanks.org.uk](http://www.newnuclearpowernothanks.org.uk). It gives details of the case against the nuclear options.

*News from Greenhouse Trust (INFORSE member), [www.GreenhouseTrust.co.uk](http://www.GreenhouseTrust.co.uk)*

## New Wind Power Record

The year 2005 saw another record in windpower developments with 11,300 MW of capacity added worldwide, of which 6,174 MW was in Europe, mostly in the 15 "old" EU countries.

Both the global and the European developments are records. At the end of 2005, the global capacity reached 58,982 MW, of which more than 40,000 MW are installed in the EU, reaching the EU 2010 target five years ahead of time.

The development is spread among more countries and regions than before, while the installation rates in the "old" windpower leaders of Germany, Denmark and Spain have decreased. In Denmark, only 4 MW was added to the capacity, similar to the installations in 2005 on the tiny Faroe Islands.

The largest installation was in USA (2424 MW of capacity added), followed by Germany (1,799 MW added), Spain (1,764 MW), India (1,430 MW), Portugal (500 MW), China (496 MW), UK (465 MW), Italy (452 MW), France (371 MW), Canada (239 MW), Austria (213 MW), and Australia (196 MW).

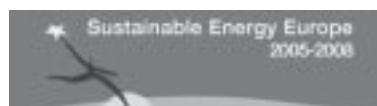
*Information: [www.windea.org](http://www.windea.org), [www.ewea.org](http://www.ewea.org).*

## INFORSE-Europe Became Campaign Associate of the Sustainable Energy Europe 2005-2008 Initiative

The European Commission Directorate-General for Energy and Transport officially recognised INFORSE-Europe as Campaign associate.

The aim of the European campaign is to raise awareness and change the landscape of energy.

*See: <http://www.sustenergy.org>*



# Energy Brigades, Bulgaria

By Todor Slavov, Energy Coordinator, Za Zemiata, Bulgaria



## Geothermal Energy

The town of Sapareva Banya in Bulgaria has the hottest mineral springs in Europe, with water temperatures as high as 103 °C. This resource was harnessed in 2001 when the Bulgarian government developed a heating system to deliver hot water to five buildings within the municipality. Eventually, just four of them were heated

thus; a new project was implemented to reconstruct and modernize all the buildings and to connect the fifth, St. Anna's Kindergarten, to the geothermal heat-distribution system of the town. This first phase has been accomplished and the project will end when the full potential of the geyser has been realized.

## Energy Efficient Buildings

In 2002, the Environmental Association Za Zemiata (member of INFORSE) along with the Municipality of Sapareva Banya implemented energy-efficiency measures in

the five buildings, which lacked insulation. Za Zemiata trained local unemployed people who were helped by other volunteers to remedy the heat losses around windows and doors. The plan was to save energy from the buildings that are heated with geothermal energy as well as allocate it to St. Anna's Kindergarten.

## Figures Talk!

The investment for reconstruction and modernization of the heating system was 92,486 euro. Fuel-based (naphtha) heating costs had been roughly 68,000 euro/year; with this project, the heating costs decreased to 5,700 euro/year. The fees corresponding to the geothermal water are paid to eco-funds and 30% goes back to the municipal administration budget.

## Brigades

The Bulgarian Energy Brigades have actions every year. In 2006, they will turn to "Solar Energy Brigades" who will be trained on the do-it-yourself program to build up a solar system for hot water by using natural materials such as clay, straw, wood, and scrap materials. The project will take place in the eco-village of Vlahi.



Energy brigades in action at the kindergarten in Bulgaria. Photos by Za Zemiata.

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# PV to Georgia

By Manana Dadiani, Energy Efficiency Centre, Georgia

The World Bank finances the program "Better Neighborhoods, Better Homes", which includes the "Georgia Development Marketplaces" run by the Energy Efficiency Centre Georgia.

This project is being developed in the neighboring villages within the protected area of Ilto to ease poverty by improving people's living conditions and reducing harmful environmental impacts while satisfying residents' energy needs with renewables. The project provides lighting for 16 families by means of 45-W peak-capacity photovoltaic systems (PV), along with energy-efficient wood stoves.

Georgia lacks a policy framework to support renewable energy; people are not familiar with any other energy sources but the conventional ones. The country is in a permanent energy crisis, especially in the rural areas. In these remote mountainous locations, electricity supply is either



unstable or unfeasible. These populations have no access to information media. They are using kerosene lamps, candles and wood to fulfill their energy needs, with all the downsides that these practices imply, like risk of respiratory diseases, uncontrolled usage of forest resources, etc. Georgia has a Mediterranean-like climate, with 250-280 sunny days per year, for an average solar radiation of 4,2 kWh/m<sup>2</sup> per day in regular areas and around 5-6 kWh/m<sup>2</sup> per day in the Caucasus mountainous regions. The project would reduce wood consumption by 30%; assuming that each family requires 15 m<sup>3</sup> of wood annually,



the savings would be around 4.5 m<sup>3</sup> per year. Raising awareness and introducing other energy-efficiency measures will result in economic savings and will reduce environmental impacts. The project aim is to meet the new challenges of environment, economy and social well-being.

## More information:

Energy Efficiency Centre Georgia,  
10 Lermontov Str. 0105, Tbilisi, Georgia.  
Ph: +995 32 921640/ 921699,  
Fax: +99532 921508  
E-mail: [m\\_dadi@eecgeo.org](mailto:m_dadi@eecgeo.org)  
W: [www.eecgeo.org/en/solar-project](http://www.eecgeo.org/en/solar-project)



# News from South Africa



Sent by Earthlife Africa, INFORSE  
Regional Coordinator

## Renewables the Cheapest

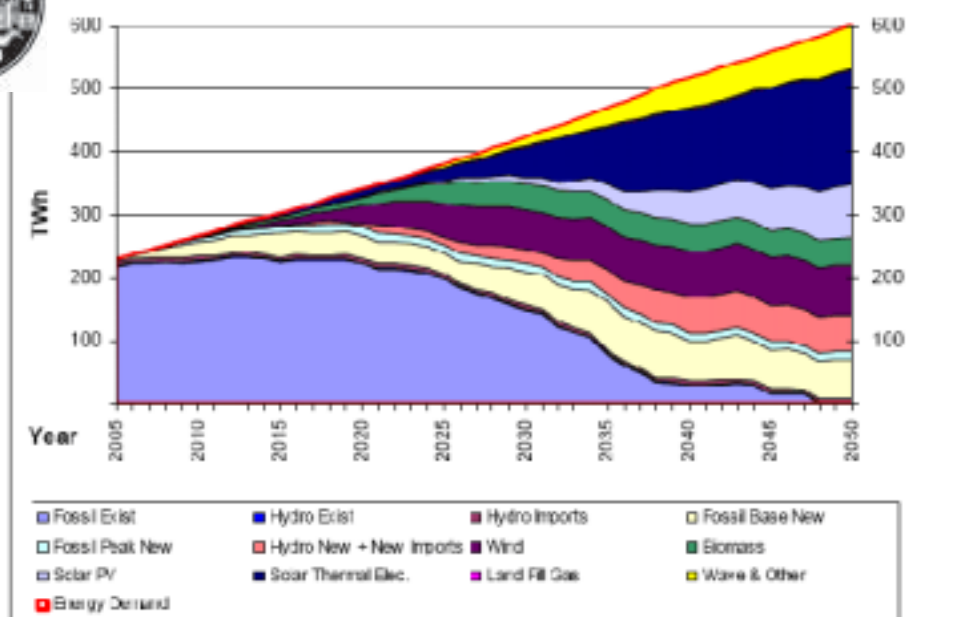
The new study "The Potential Contribution of Renewable Energy in South Africa" on costing energy options into the future was launched in Pretoria on February 16, 2006. It shows that renewable resources can offer a lower-cost energy development path for South Africa.

The study finds that the costs of generating electricity at new power plants using finite energy sources, i.e., fossil fuels and uranium, could exceed the costs of generation with new renewable energy technologies within ten years.

The findings suggest that realizing targets of 20% of electricity from renewable energy by 2020 and 80% by 2040 would reduce the costs per unit of energy by about 2028, compared to business as usual, while slightly less ambitious targets would yield lower unit costs within just 10 years.

Solar thermal electricity generation, if developed aggressively as a local industry, not only would generate more jobs and avoid pollution, but also would cost less than conventional energy options within the medium term.

Wind power is already economically competitive from the best sites and/or where some of the externalized costs of conventional generation, or the benefits of localized generation, have been taken into account. Solar energy can be concentrated to power any existing process



Change to renewable-electricity supply in South Africa following the report's progressive renewable scenario. Graph is from the study made by Earthlife Africa.

or mode of transport if developed on the same scale as coal mining and combustion.

Projecting energy costs into the future is not an exact science. These latest findings should prompt further study, but they could be used in the current Integrated Energy Planning process in South Africa.

## Biofuels

In December 2005, the South African Cabinet approved the establishment of a Task Team to develop a strategy for the use of biofuels for transport strategy by the fourth quarter of 2006. The task is to look at creating a value chain for bio-diesel and bio-ethanol that would result in significant job creation opportunities throughout the chain. South Africa imports about 60% of its crude-oil requirement; increas-

ing the volumes of ethanol in petrol and increasing the use of bio-diesel would therefore have macro-economic benefits for the country. Cooperation is expected with Brazil and the USA to implement biofuel technologies. The expected focus is on a 10% mixture of ethanol into petrol (E10), which does not require change of motors.

The construction of a corn-based methanol plant is beginning this year in Bothaville, South Africa. The plant is expected to produce 470 m<sup>3</sup> daily, starting in 2007. The commercial corn farmers in the region expect that the new demand will stabilise corn prices, which fell dramatically last year.

More information:

[www.earthlife.org.za](http://www.earthlife.org.za), SENSE, no. 36.

## Ghana: 11-Day Technical Training PV Course

**Target Group: Electrical engineers and technicians**

Number of participants per course: 12-14. The Stand Alone Solar Power System Course provides a 250-page training manual, use of all technical training facilities and material, daily lunch and refreshments, participation certificate, and exam certificates to successful students.

Financial assistance: Discounts are offered to institutions. Scholarships are offered to electrical-engineering/technical students from universities and polytechnic schools only.

In the second half of 2006, courses are scheduled in November and December.



Offered in cooperation with Global Sustainable Energy Solutions, the Faculty of Mechanical & Agricultural Engineering of the Kwame Nkrumah University of Science & Technology, Kumasi, Ghana and DEG Germany.

Applications and requests for further information should be sent to:

Contact: Frede B. Bosteen,  
Geoff Stapleton, Isaac Adjei Edwin,  
Deng PV Solar Training Centre, South  
East Alajo (Off Nsawam Road),  
P.O.Box AN 19996, Accra.  
E-mail: [pvsolar@dengltd.com](mailto:pvsolar@dengltd.com),  
F: +223 21 222276,  
T: +223 21 257099, 257100  
<http://www.dengltd.com/>  
[www.deng-ghana.com](http://www.deng-ghana.com)

## News from America:

### Hawaii Takes a Sustainable Energy Track

At the start of the new year, 2006, the State of Hawaii launched a comprehensive and integrated approach to reducing oil dependence, Republican Governor Linda Lingle's "Energy for Tomorrow" bill.

The state has never seen such a broad-ranging and comprehensive suite of policies aimed at ending the state's addiction to oil. While Hawaii has no fossil-fuel resources, it has the full portfolio of renewable energy resources. The Rocky Mountain Institute (Colorado, USA) will be working with the State of Hawaii to provide the energy strategy and implementation plan.

Four of the bill's elements stand out as important innovations:

- First, "Savings through Efficiency" calls for the creation of a Public Benefits Charge that will be used to fund efficiency and distributed renewable energy directly through an independent third party.
- Second, "Independence through Renewable Energy" contains provisions that strengthen Hawaii's renewable portfolio standard, setting it at 20% and explicitly tasking the Public Utilities' Commission with defining

a methodology for valuing the long-run benefits of renewable power in reducing fossil-fuel risk. The bill also calls for sharing the fossil-fuel risk between the utility and its ratepayers.

- Third, the centerpiece of "Fuels through Farmings" is a 20-% Renewable Fuels Standard, backed with exemptions from the state fuels excise tax and state preferences for biofuels procurement.
- Finally, this energy bill could lead Hawaii to become a world leader in hydrogen energy technology. It calls for the immediate establishment of a world-class renewable hydrogen program.

Another critical innovation is the Pay As You Save (PAYS) pilot program, which provides a revolving fund to finance solar water heating for low-income residents that is paid back through energy savings.

#### Information:

Rocky Mountain Institute,  
[www.rmi.org/sitepages/pid65.php](http://www.rmi.org/sitepages/pid65.php) .  
See also: [www.maui-tomorrow.org/issuespages/energy/index.html](http://www.maui-tomorrow.org/issuespages/energy/index.html)

## California Goes for Solar

In January the California Public Utilities Commission (PUC) decided upon the largest solar program of its kind in any state of the USA. The California Solar Initiative, a 10-year, \$2.9 billion program, has the goal of increasing the amount of installed solar capacity on rooftops in the state by 3,000 MW by 2017.

The program will give rebates that will decline steadily over the 10-year timeframe. Funds will come from electric and gas distribution customers of investor-owned utilities, and will go towards the installation of solar photovoltaics initially, with solar hot-water heating as well as solar heating and cooling systems being added within a year.

The program sets aside 10 % of its funding for low-income customers and for affordable housing installations; and up to 5 % for research, development, and demonstration activities.

The program requires all facilities that receive an incentive to undergo an energy-efficiency audit (at a minimum) to identify more cost-effective energy-efficiency investment options for the building.

Information: [www.cpuc.ca.gov/PUBLISHED/News\\_release/52745.htm](http://www.cpuc.ca.gov/PUBLISHED/News_release/52745.htm) .

## News from Asia:

### Bangladesh: 30 New PV Centers Contributing to Women's Empowerment

Grameen Shakti (GS), an INFORSE member organisation, has undertaken a program to set up 30 Grameen Technology Centers (GTCs) to scale up its solar program, especially production of solar home system (SHSs) accessories, by manufacturing these locally. These GTCs will also contribute to women's empowerment by training them in solar-energy technology. These trained women will be known as GS-certified technicians. GS will help these technicians to sign annual contracts with its clients and will act as a guarantor for them.

Only 30% of the people of Bangladesh have access to electricity. That is why rural electrification through solar PV technology has become popular and is expanding very fast in Bangladesh. Nearly 20 thousand people each year are installing SHSs for business or household purposes. GS plans to install 100,000 SHSs by 2007 and half a million by 2015. Therefore, GS envisages a future where there would be

a huge demand for SHS accessories as well as for maintenance services to keep the sold SHS's in working order.

GS plans to use the GTCs to meet the projected demand for repair / maintenance services and for SHS accessories at affordable costs. The planned GTCs will train a minimum of 1000 women technicians and will employ them to produce the accessories. These women technicians will also strengthen and expand the back-up services in the local communities. In addition, GS will use the Centers to train 5,000 women to repair and to maintain the SHSs. GS feels that women will be better able to ensure proper maintenance of their SHSs because, in Bangladesh, women are responsible for household activities.

The planned project will benefit local communities because they will have easier access to SHS technology at reduced costs to meet their socio-economic needs. Approximately 100,000 people will benefit directly or indirectly by 2007, growing to

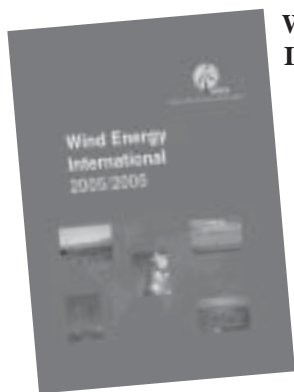
PV to power mobile phone in Bangladesh.  
Photo by Grameen Shakti



more than a million by 2015. More people in rural Bangladesh will see new business and employment opportunities in their areas and will enjoy better quality of life. This project will especially contribute to women's empowerment by increasing their employment opportunities and by increasing their decision-making power.

More information: Absar Kamal, General Manager, Grameen Shakti, INFORSE member organisation, [g\\_shakti@grameen.net](mailto:g_shakti@grameen.net), [www.grameen-info.org/grameen/gshakti](http://www.grameen-info.org/grameen/gshakti) [www.inforse.org/asia](http://www.inforse.org/asia) .

## Publications



### Wind Energy International 2005/2006

This international standard yearbook for wind energy contains state-of-the-art knowledge related to wind power. The book is divided into country reports and special reports. The former covers all of the continents, depicting the current status of wind power in 65 countries. Each country report gives a brief description of the country, an electrical-energy sector overview, wind-energy resource assessments, overviews of the electrical-energy market and of wind-energy legislation, and wind-energy projects, among other contents. The second part, "special reports", contains articles written by experts on several aspects of wind-energy use. The reader can also find interesting reports on education and training, policies, economies and markets, society and environment, small-scale wind and hybrid systems, grid-connected systems and wind farms, etc. The book includes country maps and data tables.

The book is an easy-reading text with clear-cut contents, suitable to all readers and providing an overall insight into the progress of wind energy.

*Edited by The World Wind Energy Association (WWEA)*

ISBN: 81-7525-641-9, 350 pages

The book can be ordered on-line from the web-site or by post.

EU-Countries: 60 EUR incl. delivery and VAT. Outside EU: 60 EUR incl. delivery  
Rebate: WWEA Members: 15 %; > 5 copies: 10 %; >10 copies: 15 %

*Contact:*

WWEA, Charles-de-Gaulle-Str. 553113  
Bonn, Germany.

Ph: +49 228 369 40 80,

Fax: +49 228 369 40 84,

E-mail: [secretariat@wwindea.org](mailto:secretariat@wwindea.org)

[www.wwindea.org](http://www.wwindea.org).

Indian Wind Energy Association

(InWEA), [www.inwea.org](http://www.inwea.org).



### Education on Energy - Teaching Tomorrow's Energy Consumers Brochure and Case Studies

The EU publication highlights the fact that the European Commission has set up energy-efficiency improvement as a priority for the next generations to face the increasing import of energy as fossil fuel reserves diminish fast and prices grow higher than ever. Given the current trends and uncertainty about the future contribution of nuclear power, it is predicted that by 2030 the EU will depend on imported energy for 70 % of its total needs. The publication points out to the aim of the recently released Green Paper on energy efficiency to put energy efficiency on the agenda of all European citizens.

The brochure outlines practical actions that could save 20 % of EU energy consumption by 2020.

This publication draws attention to people's mindset about energy use and states the need for changes in consumers' behaviour. Thus, it suggests investment in more efficient energy technologies, promotion of renewable energy systems, and more rational use of energy in households. Readers are offered many energy-saving tips.

The brochure presents the concept of energy agencies and emphasises the educational system as a vector to raise awareness and to achieve the goals mentioned above, as today's children will be tomorrow's energy consumers.

Case studies are described briefly, which are intended to inspire new projects.

The Brochure targets schools, universities, and citizens.

*Published by EU, 2006, 36 pages.*

*ISBN 92-79-00772-6,*

*Language(s): 19 EU languages.*

*Price: gratis*

*[http://europa.eu.int/comm/dgs/energy\\_transport/publication/energy\\_policy\\_en.htm](http://europa.eu.int/comm/dgs/energy_transport/publication/energy_policy_en.htm)*

*<http://www.managenergy.net/products/R1245.htm>*

*E-mail: [tren-publications@cec.eu.int](mailto:tren-publications@cec.eu.int)*

## Events

*Coming events, which are organised by INFORSE or INFORSE members, as well as, events where INFORSE organisations are participating.*

*March 24-26, 2006*

### **SPARE Energy Education Seminar, St Petersburg, Russia**

Info: INFORSE-Europe, and Norwegian Society for the Conservation of Nature.

Web: [http://www.inforse.org/europe/seminar06\\_edu.htm](http://www.inforse.org/europe/seminar06_edu.htm)

<http://spare.net.ru/intrus/index.html>

E-mail: [spare@naturvern.no](mailto:spare@naturvern.no)

*March 29-31, 2006*

### **European Sustainable Energy Policy Seminar, Brussels, Belgium**

Info: INFORSE-Europe, EREF, EUFORES

Ph: +45-86227000; Fax: +45-86227096

Web: [http://www.inforse.org/europe/seminar06\\_BXL.htm](http://www.inforse.org/europe/seminar06_BXL.htm)

E-mail: [ove@inforse.org](mailto:ove@inforse.org)

*April 6-7, 2006*

### **International Conference on Energy and Education. Budapest, Hungary**

Info: European Sustainable Energy Education Forum (ESEEF)

Web: <http://ssf.ises.org/uploads/SSF/ESEEF-folder.pdf>

E-mail: [ssf2006@gek.szie.hu](mailto:ssf2006@gek.szie.hu)

*April 20-21, 2006*

### **Third International Pupils' Conference 2006 in the area of Sustainable Energy. Cieszyn, Poland**

Info: Ekoenergy Cieszyn Association, Trianon Association

Web: <http://www.skoleenergi.dk/s4e/Confcieszyn.pdf>, [www.ekoenergia.org](http://www.ekoenergia.org)

E-mail: [info@ekoenergia.org](mailto:info@ekoenergia.org)

*May 1-12, 2006*

### **UN Commission for Sustainable Development (CSD), 14th Session**

Web: <http://www.un.org/esa/sustdev/csd/>

*May 25-27, 2006*

### **Central Asian European Forum on Climate Change, Bishkek, Kyrgystan**

Info: UNISON.

Web: <http://www.unison.kg>

E-mail: [y-unison@elcat.kg](mailto:y-unison@elcat.kg)

*September 3-8, 2006*

### **European Sustainable-Energy NGO Seminar, Solta island, Croatia**

Info: INFORSE-Europe, and Green Action Zagreb. Web: [http://www.inforse.org/europe/seminar06\\_solta.htm](http://www.inforse.org/europe/seminar06_solta.htm)

E-mail: [ove@inforse.org](mailto:ove@inforse.org)



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INFORSE-EUROPE



EREF

**European Sustainable Energy Seminar, March 29, 2006, Brussels**

Read Proceedings:  
[http://www.inforse.org/europe/seminar06\\_BXL.htm](http://www.inforse.org/europe/seminar06_BXL.htm)



INFORSE-EUROPE

**SPARE Energy Education Seminar, March 23-26, 2006, St Petersburg**

Read Proceedings:  
[http://www.inforse.org/europe/seminar06\\_edu.htm](http://www.inforse.org/europe/seminar06_edu.htm)



INFORSE-EUROPE

**European Sustainable-Energy Seminar, September 3-8, 2006 Solta, Croatia**

This year INFORSE-Europe is inviting NGOs and individuals to a European seminar in cooperation with Green Action, Croatia, at the new "Solar Academy" that is under development on the island of Solta in the Adriatic sea near the Croatian town Split. The seminar will highlight:

- Political developments and strategies for sustainable energy. We will discuss political developments on European and global levels, along with strategies for NGOs, and the development of sustainable energy strategies with rapid but realistic transitions away from fossil and nuclear energies.
- Practical work with demonstration models for renewable energy and energy efficiency for education and exhibitions. This will also help to develop the "Solar Academy", with a range of practical educational tools.

Before the European Seminar, a South East European regional NGO seminar on climate and energy will be held, discussing sustainable energy and the coming South East European energy market.

The participation fee is 150 €, including all food and simple accommodation. We are working to provide funding for some NGOs from Central and Eastern Europe.

[http://www.inforse.org/europe/seminar06\\_solta.htm](http://www.inforse.org/europe/seminar06_solta.htm)



**DIERET Online Education will start in 2006 again! Sign Up Now! European Round**



<http://www.inforse.org/europe/educat.htm>

## **Central Asian European Forum on Climate Change, May 25-27, Bishkek, Kyrgystan**

Offering an impressive program with speakers from Europe and Central Asia, the conference will:

- Focus on practical solutions to the region's most important legal and organisational barriers to market development.
- Cover current status of energy efficiency and renewable energy in Central Asia and Europe.
- Provide insight into actions planned and future perspectives in the field.
- Take a closer look at energy certification of buildings.

The conference is being organised by the Civil Environmental Foundation UNISON with support from the EU and others. The participation fee is 150 € (170 € after 15/4); but a reduced fee and limited travel support are available for participants from the former Soviet Union. See: [www.unison.kg](http://www.unison.kg) or contact [y-unison@elcat.kg](mailto:y-unison@elcat.kg), Fax: +996-312-214677.

