SUSTAINABLE ENERGY NEWS

Newsletter for INFORSE International Network for Sustainable Energy.

No. 38, October 2002

Joburg Summit, Focus on Europe, Energy Watch

Sustainable Energy Contact List - Europe Included
From the Summit to Sustainable Development

“Mr Snail” “No more nuclear”
“Stop Global Warming”
“World Summit for Snails”

Japanese demonstration with a “walking snail” in Johannesburg to show that the negotiations were slow like a snail.

At the World Summit on Sustainable Development (WSSD), most speakers - including many heads of states - gave unprecedented support to renewable energy and to sustainable development regarding energy.

Listening to the speeches, the impression would be that a global change to renewable energy is on its way. Looking at the papers - in particular the WSSD Plan of Implementation - there is also general support for renewable energy and energy efficiency, but in many of the paragraphs, undefined “advanced energy technologies” are supported to the same extent. Also, the interest in making partnerships in energy shows a large amount of support for sustainable energy, though the aims of the various partnerships are very different and there does not seem to be any sustainability test to pass for the partnerships registered with WSSD.

A critical look at the outcome of the Summit shows that commitments regarding targets and timetables are practically non-existent regarding energy. Thus, the bottom line is that there were no such commitments agreed with the Plan of Implementation, just a vague sense of direction. The frustration with this lack of commitments was the background for the development of the coalition of 70 like-minded countries committed to increase their use of renewable energy through time-bound targets.

Time for the Like-Minded

In the negotiations, the USA worked to stop any commitment on sustainable energy, and the developing countries in G77 were dominated by oil countries on energy issues. As long as this situation continues, UN negotiations on sustainable development -such as in the Commission on Sustainable Energy (CSD) - are not likely to give better results for sustainable energy. Rather than CSD, the way forward for serious international co-operation for sustainable energy can be in the form of groups of progressive countries that commit themselves to start the transition to sustainable energy, to assist each other, and to develop the necessary international institutions for co-operation.

The above-mentioned coalition of like-minded countries can do this. Now it is time to get it operational. It is time to get the declaration of the like-minded countries and the positive words of their heads of states turned into actions, nationally as well as in this new coalition. And it is our role as NGOs to push and help our governments to make it happen.

And the INFORSE Network

The WSSD was a good opportunity for NGOs to meet and to discuss ideas and visions for future directions and co-operation.

INFORSE used this opportunity, and many visited the INFORSE exhibition at the Civil Society Forum or learned about the Vision2050 at our side-event at the official WSSD. Many of these showed interest in future co-operation with INFORSE or in joining the network.

The large positive response and the opportunity for meetings among several of the coordinators form a good basis for future INFORSE activities, - activities to increase voice of NGOs in relevant international negotiations, and to strengthen the work of the members, mainly on the national level.

One concrete outcome of our discussions with other NGO representatives is the new co-operation between INFORSE and the Sustainable and Peaceful Energy Network Asia (SPENA).
Restructuring of INFORSE

A number of the INFORSE co-ordinators managed to meet at the Johannesburg summit and discuss the future of the INFORSE network after the change of the Secretariat to OVE/INFORSE-Europe.

This was followed by discussions via email with the other co-ordinators.

The first conclusion of this is clear: the network will continue with emphases on the regional activities and participation in global processes.

Participation in global processes must be focused. Upcoming issues that INFORSE might follow include:

- EU Energy Partnership Initiative. This would involve INFORSE-Europe as well as the African INFORSE regions (the initiative is mainly directed to Africa).
- Clean Development Mechanism (CDM), including a label for sustainable CDM projects as proposed by WWF.
- Phase-out of subsidies as discussed at the Johannesburg Summit.

For the moment, only European activities are well funded. Thus, fund-raising will be needed to increase activities in the other regions.

We also considered restructuring the regions in East and South Africa as well as in East Asia to add more co-ordinators. The members for these regions will be contacted about this soon, as no change in co-ordinators can take place without the participation of the members of the region.

Finally, we agreed on a co-operation between INFORSE and SPENA (Sustainable and Peaceful Energy Network in Asia). The co-operation will start by including the members of SPENA in the INFORSE contact list. They will also receive Sustainable Energy News. The next steps could be common workshops and other activities.

INFOFORSE at WSSD

From the INFORSE coordinators and focal points and members many participated at the official as well the parallel event. Among others Emil Bedi, Raymond Myles, Gunnar Boye Olesen, Timothy Byakola, and Helene Connor

INFOFORSE-SPENA Workshop

On August 31, 2002, INFORSE-SPENA held a workshop parallel to the WSSD in Johannesburg.

The workshop included presentations on sustainable energy experience in cities and islands in Europe and Japan.

It also included discussions of the INFORSE Vision 2050 and presentations from Taiwan, Indonesia, and Japan. The proceedings “Sustainable Energy Policies and Local Communities” are available at the INFORSE and SPENA websites, see: www.inforse.org.

Read more about SPENA on page 11.

INFOFORSE - Exhibition

Between 26 August and September 4, 2002, INFORSE exhibited the network’s activities at the Civil Society Forum.

A new series of posters with pictures described INFORSE’s activities.

Hundreds of copies of the latest Sustainable Energy News were picked up during the event.

INFOFORSE - Official Parallel

On August 29, 2002, INFORSE participated on an official side event to the WSSD in Johannesburg. The title was: “Energy and Sustainable Development”

It was an event together with Helio International (INFORSE member), NGO Energy and Climate Caucus, World Energy Council, Centre of Developing Renewable Energies, International Energy Agency.

From the INFORSE Coordinators, Raymond Myles, and Gunnar Boye Olesen made presentations.

Read more about WSSD on p. 14-15
DIERET Online Education Starts Again!

The Distance Education on Renewable Energy Technologies is back with a new round of this distance learning course in English. If you or one of your colleagues would like to learn the basics of renewable energy, sign up for the course by sending an email to emilbedi@yahoo.com.

Participation is free for people with connection to INFORSE-Europe members and from Central & Eastern Europe.

The deadline for the 2002-round is: November 6, 2002.

In addition to the English version of the course, translations to Russian and Albanian are on their way.

Read more about DIERET at www.inforse.org/europe/educat.htm

Focus on European Policies

INFORSE-Europe has increased its activities to follow and comment on European energy policy.

The most important of this is EU’s policy, but also the policies of the UN-Economic Commission for Europe, the Environment for Europe process, as well as other fora can be important for national and local decisions. It is important to follow European policy for two reasons:

• via networks such as INFORSE, NGOs can influence European policy to make it more supportive of sustainable development.

• often, elements of European policy provide better support for sustainable development than do national or local rules and strategies. Bringing in progressive elements of European policy and legislation can push national and local decisions to be more supportive for sustainable development.

You will find the coverage of EU energy policy on the following pages, as well as on the INFORSE-Europe website. Other activities will include INFORSE opinions on EU policy and the below-mentioned seminar.

INFORSE-Europe Seminar on European Sustainable Energy Policies, November

NGOs active in European energy & environmental policies are invited to a seminar on European energy policy in Brussels, November 28-29, 2002. The preliminary list of topics includes:

• Vision2050 in Europe.

• EU policies for reduction of CO2 from the energy sector.

• EU sustainable energy policies & EU Accession countries.

• Integration of environmental policy in energy.

• Phase-out of environmentally harmful energy subsidies.

• EU Energy Partnership and European follow-up of WSSD in energy.

• Nuclear power.

INFORSE-Europe Seminar on European Sustainable Energy Policies, November

INFORSE-Europe can cover seminar and accommodation costs for INFORSE - Europe members, BUT not travel. Contact: ove@inforse.org

Call for Success Stories in Central & Eastern Europe

INFORSE-Europe is updating the database of sustainable energy successes in 2002. Please send proposals for new “stories” to ove@inforse.org.

For accepted “stories”, costs of describing them can be covered up to 100 EUR.
Vision2050 in Europe

The vision for phasing out fossil and nuclear energy by 2050 is becoming clearer for Europe.

For Denmark, the combination of a scenario for 1996-2030 and a vision for 2030-2050 show how the transition could be made. Visions are under development for Slovakia and other countries.

The scenario for Denmark shows that development with 70% reduction in CO₂ emissions by 2030 is not more expensive than business as usual.

A new tool for developing the vision for a country or area is under development. The tool, consisting of a number of spreadsheets, will soon be available for INFORSE members that would like to develop a vision for a sustainable energy development.

The basis is an energy balance for the starting year combined with estimated trends for development of renewable energy and of energy efficiency.

Contact: INFORSE-Europe, ove@inforse.org or for the vision for Slovakia emilbedi@yahoo.org.

Environment for Europe - Including Energy Efficiency

When the European environment ministers meet in 2003 in Kiev, May 21-23, they might ask about the results of their decisions in 1998 of phasing out environmentally harmful energy subsidies, promoting energy efficiency, etc.

The answer is being prepared by the Energy Charters working group for energy efficiency.

It will propose that the energy ministers once again focus on energy efficiency, but what to say about energy efficiency is still to be discussed.

The energy efficiency working group will use its meeting on November 14-15, 2002 for this.

From the NGOs, ECO-Forum have already proposed that the focus should be on:

- sustainable heating, including a sustainable transition of district heating.
- reform of energy prices, with new initiatives for phase-out of environmentally harmful subsidies.
- integration of environmental concerns in liberalisation of energy markets.
- co-operation with multilateral development banks (MDBs), including assessments of energy efficiency of projects funded by MDBs.
- targets for energy efficiency and renewable energy.
- efficiency labelling and standards, such as a 5% per year increase of efficiency related to the gross domestic product.

INFORSE-Europe and a number of NGOs in ECO-forum have decided to focus on sustainable heating have proposed a project to address the problem of decaying district heating infrastructure throughout Central and Eastern Europe.

In general, the ECO-Forum has decided to focus on integration of environmental policy into other policy areas, including energy. The integration of environmental policy will be the topic of an NGO Session at the ministerial meeting in Kiev.

To prepare NGO positions and others for the Kiev meeting, ECO-Forum will conduct a strategy meeting December 7-8 in Bratislava.


80% CO₂ reductions

In September 2002, the German ministry of Environment released a study on how German energy-related CO₂ emissions could be cut by 80% by 2050, combined with a phase-out of German nuclear power.

The study shows that with efficiency, energy consumption can be cut by 50%. Then, renewable energy can cover close to 50% of the remaining energy demand. The study concludes that the development is technically feasible, economically viable, and does not present the players involved with any insurmountable problems. Rather, it constitutes both a challenge and an opportunity.

The study was done by Wuppertal Institute and DLR Stuttgart, Institute for Technical Thermodynamics.

Read more (in German) at www.bmu.de/presse/2002/pm233.php

Phase-out of environmentally harmful subsidies

The UN-ECE has formed a task force for reforming energy prices. It will meet on November 19 in Geneva to discuss guidelines for removing subsidies as a way to promote sustainable energy development.

The phase-out of subsidies that hinder sustainable development is a high priority for many NGOs.

At the meeting, the ECO-Forum energy and climate group will follow the negotiations closely.

Since 1998, when the European Environmental Ministers decided to phase out environmental harmful energy subsidies, a guideline for the phase-out has been lacking, to assist countries in assessing the subsidies and in organizing a phase-out that is socially acceptable.

Read more at www.unece.org/energy/nrghome.html and www.inforse.org/europe
EU Parliament and Ministers to Vote on Intelligent Energy

The proposed EU framework program “Intelligent Energy for Europe” will be discussed in the EU Parliament’s industry committee at the end of October, 2002. It might be adopted by the Parliament and by the EU countries’ energy ministers in November.

The program will be a framework, covering the period 2003-2006, for the SAVE and ALTENER programs to promote, respectively, energy efficiency and renewable energy. It will also be a framework for two new programs, COOPENER for international co-operation on energy efficiency and renewable energy, and STEER for energy aspects of transport.

The proposed annual budget is 50% larger than that of the previous framework program for SAVE, ALTENER, SYNERGY, and other energy programs.


More Energy-Efficient Buildings

On October 10, the EU Parliament supported the proposal for a directive on energy performance of buildings, if some amendments are made. It is expected that the EU Commission will agree to the amendments. Then the final decision lies with the EU countries’ energy ministers, who will be meeting in December, 2002. The directive, mentioned in Sustainable Energy News no.34, requires minimum standards for new buildings and for renovated buildings larger than 1000 m2; energy certification of buildings; and inspection of boilers and central air conditioning. For new buildings larger than 1000 m2, the feasibility of energy supply based on renewable energy, cogeneration of heat and electricity, and district heating must be assessed.

If the proposal is approved in December, it should be introduced in national legislation by the end of 2005.


EU Emissions Trading, how Good Will it be for the Climate?

Mandatory limits for greenhouse-gas polluters and the ability to trade emission allowances among polluters (cap and trade) could be an efficient way to reduce greenhouse gases. On the other hand, loopholes such as cheap emission allowances of doubtful origin could easily undermine the effectiveness of any such system.

Therefore, environmental NGOs, industry, and many others have followed closely the development of an EU emission trading system, proposed to start in 2005. Climate Action Network - Europe and WWF have take a cautiously positive position towards the EU emissions trading proposal, provided that:

- the scheme is mandatory for the sectors included (as in the original proposal).
- the scheme does not become a platform for trading of emission credits from the Kyoto Protocol flexible mechanisms. The groups accept the inclusion of credits from Joint Implementation (JI) and Clean Development Projects (CDM), if the projects do not include sinks or nuclear power.
- allocations are sold (auctioned) and not given for free to polluters.
- there must be a cap of emissions for each country.

On October 10 2002, the EU Parliament supported the proposal on some conditions, including that:

- credits from JI and CDM cannot be included before 2008 and must not include credits from sinks or nuclear energy projects.
- 15% of the credits should be sold, 85% given for free.

The proposal will be discussed among the EU countries’ environmental ministers in December, 2002.

Early Experience

One of the countries that have a “cap and trade” system for CO2 emissions already is Denmark.

Here is the experience of the first two years that the system has worked so far, even with a low penalty of 5 EUR/ ton of CO2.

The positions of several Danish environmental NGOs are that the system should be extended beyond 2003, when the present system ends; also, that the penalty should be increased, and that emission reductions should be made within Denmark.

The last point will probably be fulfilled if emission credits are traded at 10 EUR/ton of CO2 or higher, but not if the price falls below 5 EUR/ton.


Cogeneration Directive Discussed in EU countries

A directive to support cogeneration of heat and electricity was proposed by the EU Commission in July and currently is being discussed by the EU countries. The proposal covers the following main elements:

- co-generation plants shall have the right to be connected to the grid following objective, transparent standard rules. Fees for transmission and distribution must not discriminate against co-generation plants. Special preferential rules should be made for plants below 1 MW.
- barriers to be reduced to increase use of co-generation will include, e.g., administrative barriers
the countries may provide support schemes for co-generation, but they do not have to do so. The support must be based on the useful heat demand and, in principle, be limited to electricity produced on 50 MW(electric)/plant. A smaller plant would then get full support while, e.g., a 100 MW(e) plant would get half support. The support must not be used to subsidize heating.

- co-generation plant owners shall have the right to obtain a guarantee of origin of electricity produced at their plants.
- there must be harmonisation of different definitions of cogeneration for a common definition of “high-efficiency co-generation”;
- the countries shall analyse their respective national potentials for high-efficiency cogeneration.

The proposal does not have any national targets for cogeneration and does not require the countries to support cogeneration. The co-generation industry (Cogen Europe) finds the proposal “disappointing”.

It is certainly a soft measure, where the value shall be seen as more focus on the benefits of cogeneration and the opportunities for national organisations to use the directive as a driver for national support for cogeneration.

In connection to the directive, the Commission puts forward a number of arguments for cogeneration, including that cogeneration plants are less vulnerable to terrorism than central power plants.

The proposal will be discussed by the EU’s energy ministers in December 2002.

The EU Parliament will discuss the proposal at the industry committee meeting in January.

If the process runs smoothly, the directive can be adopted in 2003, in which case most parts of it must be implemented by 2005.

**Useful in Central Europe**

It is the hope of the Commission, and of many others, that the directive will support the use and development of cogeneration in the EU accession-countries, where the widespread use of district heating is a good basis for cogeneration. When the electricity directive is introduced in the accession countries, it is important that this directive and the renewables directive be implemented as well. This can ensure that the market does not hamper sustainable development.


**Energy Stars in Your Office**

Now, the EU has joined the US “Energy Star” label for energy efficiency of office machines.

This will make it easier for consumers to buy energy-efficient equipment in Europe. Products for the European market can now be registered to use Energy Stars at the EU Commission, as US products have been registered at the US Environmental Protection Agency (EPA) for years. It is expected that the increased consumer focus on energy efficiency caused by this star in the EU countries will save 10 TWh annually in 2015, equivalent to about 0.4% of electricity consumption in the 15 EU countries.

While “Energy Star” is a good, simple sign of more energy efficient products, it does not tell how to find the most energy-efficient equipment.

In 2000, the EU Commission and the US EPA agreed to use the “Energy Star” in Europe, but it is only this year that the European energy stars are being introduced.

Read more about the Energy Star in EU at www.energyefficiency.jrc.cec.eu.int/energystar/, where you can also see if your equipment qualifies for a “star”.

Read about the “Energy Star” in the US at www.energystar.gov

**Stronger Energy Liberalisation in EU**

The EU countries might adopt stronger requirements for opening EU’s electricity and gas markets which would begin as soon as this November, if they can agree. With the new proposal, the markets should be open for all electricity consumers by 2005.

A positive part of the proposal will probably be that electricity will be labelled so the customers can see the contribution of each energy source to the electricity purchased. Unfortunately, another progressive proposal will probably not be included: power companies with nuclear power plants have large decommissioning funds that some of them can invest in the purchase of other power companies.

Other power companies do not have this option, either because their national legislation does not allow this use of decommissioning funds, or because they do not have nuclear power plants. This is a clear distortion of the market. It is important to find ways to remove this option also to avoid that speculation and overpricing of power companies reduce the decommissioning funds to a level at which they cannot cover decommissioning costs.

See also page 9 “EU Nuclear Package…”

**EU CO₂ Emissions Going Up**

Preliminary figures for the 15 EU countries shows a 0.6% rise in CO₂ emissions in 2001 compared with 2000. With this increase, the emissions were the same in 2001 and in 1990, the base year for the Kyoto emissions.

This rise also heightens the challenge of reaching the 8% reduction of greenhouse-gas emissions that is the EU countries’ commitment in the Kyoto Protocol.

The other greenhouse gases have decreased, resulting in an overall greenhouse-gas emission decrease of about 3% in 2001 compared with the base year for the greenhouse gases included in the Kyoto Protocol.

Source: DIW (German Institute for Economic Research), http://www.diw.de/deutsch/publikationen/wochenberichte/docs/02-34-1.html

**Read more about the Energy Star in EU at www.energyefficiency.jrc.ccc.eu.int/energystar/ , where you can also see if your equipment qualifies for a “star”.**

**Read about the “Energy Star” in the US at www.energystar.gov**
Renewable Energy Diplomas in Hungary

By Judit Ronai, László Németh Central-European Folk Academy

It was wonderful!

The first accredited renewable energy diplomas were given to 20 students from all over Hungary in June, 2002, on the Day of the Sun at the László Németh Central-European Folk Academy.

Journalists, TV, and radio were all interested in this first diploma award ceremony.

30 new students started their studies in January, 2002 and another group will start in January, 2003.

In 2003, the Academy also plans to receive students from all over Central-Southeastern Europe for a similar program to be realised in English.

Opening

The Academy was officially opened in 2001 after more than 10 years efforts and is an INFORSE member organisation.

Solar Collectors

The Academy is equipped with 60 m² solar collector and related facilities as a donation of the Danish Government in cooperation with the Folkecenter for Renewable Energy. The solar collectors provide heat and hot water to the learning center and to the students’ accommodation building from Spring to Autumn.

Judit Ronai is founder and director of the Academy, which is an INFORSE member. Judit is European vice president of the Association for World Education, president of Eurosolar/Hungary, initiator of the Hungarian and international renewable energy expert training programs, and a member of the Hungarian UNESCO Commission.

Info: László Németh Central European Folk Academy, Bástya u. 75, Sopron, 9400 Hungary. Ph:+ 36 99 333-350, Fax:+ 36 99 333-350, world.education@ sopron.hu
EU Nuclear Package on Its Way

Several directives are on their way in the EU Commission, which will present them as a single package.

It is expected that the package will be proposed in November 2002, and that it will include:

A directive on nuclear safety standards. Currently, these safety standards are quite different in the various EU countries, so a crucial question is how high the standards will be in comparison with the national standards.

It is also crucial to decide whether they will be minimum standards allowing the countries to have higher national standards, or whether they will be the only standard allowed in the EU.

A directive on waste management, covering all types of radioactive waste. It is expected that it will include timetables for establishing final storage facilities for the different kinds of waste. Highest emphasis will be on geological waste storage (i.e., deep underground).

The current directive on low-level radioactive waste is criticised by NGOs for inadequate protection against long-term, low-level exposure from radioactive waste recycled into building materials and consumer goods. Hopefully the new proposal will give a higher level of protection.

Regulation of decommissioning funds. It is expected that the Commission will propose that all waste management and decommissioning funds for nuclear facilities be placed in separate accounts.

Currently some utilities like Electricité de France (EdF) and E-on (in Germany) are allowed to use these funds to invest, e.g., in other power companies. This is a distortion of the electricity market. It can also put the funds at risk, if investments do not pay back as expected.

Level of imported nuclear fuel.
The Commission is seeking to increase the maximum percentages of enriched uranium allowed into the EU.

This current limitation restricts the amount of Russian uranium to 20% of the market. However, a number of accession countries currently use a much greater percentage of Russian uranium.

It is expected that the upper ceiling will be increased to 30% for EU, including the new EU member countries.

INFORSE-Europe and Friends of the Earth will follow the debate, when the package is proposed. Hopefully many national NGOs will do the same and take part in the national positions of these proposals.

YEE event December!

Youth and Environment Europe (YEE) is organising a study session on “Sustainable Lifestyle” at European Youth Centre in Budapest, Hungary, 1-8 December, 2002. The working language is English. The age of participants will be between 20-30 years. Among the topics are: how to build an ecological house; renewable energy; permaculture; and fundraising. The participation fee is 43 EUR. Travel reimbursement will be 100%.

More info: Max Vittrup Jensen; Max@permalot.cz, or Ekologické centrum Toulcuv dvur, Kabátova 1/32, 102 00 Praha 10-Hostivar, Czech Republic, tel.: +420-2-717 50 643, fax: +420-2-717 50 548, e-mail: yee@ecn.cz, www.ecn.cz/yee

The poster “Wind Energy in Ukraine” is one of the 12 posters which are also in the tour in Ukraine. The posters were made in 2001 by 2 INFORSE-Europe members FAE; Ukraine in cooperation with OVE, Denmark with support from the Danish Outdoor Council. See article in issue nr 35, backpage 35.
10,000 Solar Home System in Bangladesh

By - Mr. Dipal Chandra Barua, Managing Director, Grameen Shakti.

“Better Life, More Income”
Grameen Shakti (GS) has installed 10,000 Solar Home Systems with total capacity of 500,000 watts (1/2 Mega Watt) electricity in Bangladesh.

Customers of GS are using PV systems mainly for lighting and recreational purposes (watching TV, listening to music systems).

However, the solar system has created the possibility of income-generating opportunities for small entrepreneurs in services such as charging cellular phones, as well as in the operation of, e.g., fish hatcheries, rice mills, sawmills, tailoring shops, grocery shops, poultry farms, clinics, restaurants, shops, bazaars, hotels, and radio/TV-repairing shops.

GS also introduced a concept that it calls “Micro-utility”, defined as selling power to neighboring shops, which received enormous response from the people.

The children’s education and other household activities have been improved due to introduction of solar light.

Women are happy due to less hassle of lighting. They can perform sewing at night now. Users reported increase in income by extending working hours after dusk. Besides, PV system, have opened up new opportunities for employment.

GS has established 10 Solar Power Computer Education Centers in the rural and remote places, including three islands of the country. Information Technology is being introduced to those people through its computer training programs.

GS has already launched Village Internet and video conferencing through the Internet between one offshore island (Moheshkhal) and Cox’s Bazar (Tourist City) for the first time in Bangladesh. Now the people of Moheshkhal are receiving the Internet services to get them connected with worldwide communication.

Bangladesh, being a country with enough solar radiation, has the potential of sustainable solar energy projects, it is, therefore, a positive step forward to directly involve the rural communities in Solar Home System activities because this is the only guaranteed way to bring improvement in the quality of life to these communities, which have been living in the far-flung areas of the country with no amenities of life, including energy.

Soft Credit
GS supplies its products on a payment basis with soft credit that makes the system accessible. This is where the consumer is encouraged to take a loan to buy the equipment. In this regard, innovative techniques of paying back the loans have been evolved. There are four modes,

1) The customer has to pay 15% of the total price as down payment. The remaining 85% of the cost is to be repaid within 36 months with 12% service charge.
2) The customer has to pay 25% of the total price as down payment. The remaining 75% of the cost is to be repaid within 24 months with 8% service charge.
3) The customer has to pay 15% of the total price as down payment. The remaining 85% of the loan amount including 10% service charges is to be repaid by 36 account payee cheques in advance.
4) 4% discount is allowed on listed price in case of cash purchase.

GS has also introduced the ownership model for the customers. For instance, a customer buys one system and pays the instalments accordingly for three years. After finishing the instalment, he/she becomes the owner of the system.

Grameen Shakti (GS), a ‘not for profit’ company founded in 1996, is dedicated to promoting and popularizing renewable energy technologies.

GS has received The Energy Globe Award 2002 “Best 50”, an international prize for sustainable energy solutions that honours outstanding initiatives in the fields of energy efficiency and renewable energy sources.

GS has established 50 unit offices at different locations of the country, including 6 islands, to bring improvement in the quality of rural life. Bangladesh is a country where only 30% of the population has access to grid electricity, leaving 70% of the population without the conventional forms of electricity.

More Info: Grameen Bank Bhaban, Mirpur 2, Dhaka 1216, Bangladesh. Ph: 880-2-9004314, 880-2-9005257-68, Fax: 880-2-9004081, 9004314 Ext. 103, E-mail: dipal@grameen.com, g_shakti@grameen.net, http://www.grameen-info.org/grameen/gshakti/index.html
Gender, Energy, & Water Network Established in Nepal

SPENA, Network for Sustainable & Peaceful Energy Policies in Asia

SPENA, Sustainable and Peaceful Energy Network Asia, was founded in 1998, after the 3rd Conference of Parties to the United Nation’s Framework Convention on Climate Change in Kyoto (COP3) that was held in the end of 1997, by one of the leading Japanese NGOs, Citizens’ Nuclear Information Center (CNIC) and others who are concerned of the environmental issues on the earth. Since then, it has been operated by CNIC; however, in 2002, the secretariat was transferred to ISEP, the Institute for Sustainable Energy Policies. Two directors at ISEP were founders of SPENA.

The initial motivation of founding SPENA was that we found Asia has a good potential for implementing renewable and natural energy policies. There is no firm conventional energy infrastructure such as exists in developed regions, where energy policies still tend to depend on nuclear power. Therefore, we expected that Asia would be able to become the leading region for promoting sustainable and peaceful energy policies, not only in Asia, but also in other regions.

SPENA has about 50 members including energy specialists and environmental activists from 9 countries, i.e., from India, Indonesia, South Korea, Thailand, Taiwan, China, Malaysia, Philippines, and Japan. The trustees are comprised of one representative from each nation. Additionally, there are advisory fellows in the USA, Denmark, and Sweden.

The goal of SPENA is to promote sustainable and peaceful energy policies in Asia by collaborating, sharing information, and exchanging resources mutually. SPENA has held three workshops since its foundation, in South Korea in 1998, in Thailand in 1999 and in Tokyo in 2000.

SPENA is committed to continuing its activities for further achievement of sustainable energy societies based on the Asian vision, such as watching energy projects and studying, e.g., the restructur- ing of the Asian power market and environmental balance.

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## Watch the Indicators!

### Sustainable Energy Watch
Global Report for RIO+10

By Helene Connor, HELIO International, INFOSER member organisation, France

### Energy and Ecodevelopment
An assessment of the impact of energy policies on Planet Earth

At Rio+5, HELIO International presented its first assessment of energy policies. The preparation of the report, *Is Energy Actually Contributing to Sustainable Development?*, had helped to measure the magnitude of the task. It was realised that costs and benefits of energy systems and policies should be assessed by experienced local observers in each country in order to have a realistic and reasonably quantified appraisal.

Over the past five years, these researchers have met in various southern and northern countries and developed a methodology and indicators designed to grasp some of the linkages between energy and the environment; energy and health and welfare; energy and long-term security, peace and a safe future.

### Energy and Ecodevelopment: A Quadruple Bottom Line

“Energy is essential for development. Yet two billion people currently go without, condemning them to remain in the poverty trap. We need to make clean energy supplies accessible and affordable. We need to increase the use of renewable energy sources and improve energy efficiency. And we must not flinch from addressing the issue of overconsumption...”

UN Secretary general Kofi Annan, 14 may 2002.

The HELIO indicators assess a quadruple bottom line: environment, society, economy and technology. Here is how each of the indicators performed in the decade since Rio (See box)

This global assessment is based on best judgement made after analysis of the reports on national energy policies.

### Environmental Bottom Line

The environment bottom line has both a global and a local dimension.

In the reduction of CO₂ emissions, HELIO observers noticed opposite trends between industrialised countries and less industrialised countries or transitional economies.

By and large, OECD countries have committed to abide by the Kyoto Protocol even though the repudiation by the United States in itself. Additional efforts should be made since technical progress keeps on providing cleaner and more efficient technologies.

### Social Bottom Line

The social bottom line shows stability. There have been some progress in providing reliable access to electricity, but there has been little job creation through investments in clean energy sources (efficiency and renewables).

Rural electrification is progressing mainly when the population can have access to decentralised electric units, such as photovoltaic cells or wind power devices. Lessons are being learnt about insuring that maintenance and replacement parts should be readily available nearby.

Education and training should be provided as becoming larger with each tornado and flood, but Annex 1, industrialised “Kyoto” countries are seldom enacting climate action plans with adequate policies and measures. Good results have been achieved in those few countries that have introduced an “eco-tax”. For the rest, the free-ride aspect of the fight against climate change will require a drastic increase in the requirements of the Kyoto Protocol for the subsequent budget periods.

On a positive note, many local pollutants, SOx and NOx emissions for instance, generally are diminishing either because of decreased industrial activity in the area or because technical progress keeps on providing cleaner and more efficient technologies. However, in cases where nuclear energy has been selected as the local source of pollution like France, concerns seem to be mounting over the absence of solutions to the problems of disposal of nuclear and toxic wastes.

### Indicator Table

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Countries</th>
<th>Industri-alised</th>
<th>Agriculture-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator 1</td>
<td>per capita carbon emissions from the energy sector: D A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator 2</td>
<td>most significant energy related local pollutants: C B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator 3</td>
<td>households with access to electricity: A B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator 4</td>
<td>investment in clean energy: C B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator 5</td>
<td>energy security/energy trade: F E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator 6</td>
<td>burden of public energy investments: D C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator 7</td>
<td>energy productivity: B D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator 8</td>
<td>renewable energy deployment: C B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A: very good, B: good, C: passable, D: poor, E: very poor, F: fail
that the latter will be able to convince governments to opt for large networks and grids in remote parts of developing countries.

Economic Bottom Line
The economics of energy choices definitely been having a deteriorating effect.

Dependence on fossil fuels is increasing everywhere, mostly because of cheap transportation, but also because of the expansion of electrical production in industrialising countries.

Oil imports are subject to the vagaries of the oil markets and of the rate of exchange of the American dollar. This creates further imbalance in low income countries. Natural gas, being perceived as less damaging to the environment and the climate than oil or coal, has seen its use increase in large proportions, often substituting for coal. Coal might make a come back with the promotion of the idea of clean coal, but it would remain expensive and require subsidies.

Investment in non-renewable energy by the public sector is not diminishing. In some countries they have the further disadvantage of being high enough to crowd out investment in more useful or productive assets. Investments by the private sector could liberate these amounts, but there is a danger that these assets be transferred to foreign companies who might export the revenues.

Technological Bottom Line
On the technological front, the scene is changing rapidly even if the volumes involved are still small.

Energy efficiency is making steady progress in OECD countries, thanks to the traditional annual one percent improvement shown by technological progress. But this is also happening because Kyoto commitments have triggered the study of the energy efficiency potential which is important in every country and because of comprehensive energy efficiency policies and programmes. France is the exception as it uses its electricity from excess nuclear capacity to heat buildings. Energy efficiency is not improving in countries where energy is subsidised or where people do not pay their energy.

Renewable energy deployment is also increasing in most countries. Statistics are very hard to come by, but the experience of HELIO Observers made the difference.

Conclusions
Despite all their differences, when it comes to energy most countries have a lot in common and share the same destiny. The overall HELIO exercise, the analysis of the indicators and the comments of the Observers have brought the following findings to light.

- Few people have really been aware of what the energy situation really implies for their country, and even less so for the rest of the world. Increasing publicity on the climate issue is now forcing them for the first time to seriously face the global consequences of their energy use. In complying with their Kyoto commitments, countries are for the first time trying to adapt energy policies to environmental impacts.
- Many energy specialists, tend to see technology as the plank of salvation. The more complex the energy technology, the better it seems, but people have less access to information and there is less discussion of the issues. Decisions are therefore taken without the citizens’ valuable participation.
- Every country has declared energy efficiency and renewable energy as priorities of their energy policy, but very few are actually implementing those policies very actively.
- The advantages of renewable energy sources have not been fully acknowledged, even by specialists of multilateral banks that still help Southern countries invest in old fashioned energy production. This is partly due to the fact that internalisation of costs and benefits is still not implemented.
- Renewable energy is not always beneficial or sustainable. Land-based countries have a good performance in the use of wood for energy, but this consumption can be very detrimental even in the short term. Other sources of energy have to be promoted urgently in these countries. Modern renewables are a priority for their ecodevelopment.
- Modernisation of energy systems is still perceived as meaning more large plants rather than decentralised systems; more grids and networks rather than access to local resources. Most people are still unaware of the many downsides of this (so-called) progress.

The Future
International negotiations have made the differences between poor and rich countries more and more obvious. The Kyoto Protocol describes them as “Annex I and non-Annex I countries” and stresses that they have “common but differentiated responsibilities”. This is an important and useful concept, but is it taken seriously by northern countries?

Indeed, under the guise of liberalisation, Northern countries, even the more responsible ones, are letting their transnational companies buy and monopolise energy sources and trade all over the world with little or no benefit for local populations. The obvious reasoning still is: the more energy we can get, the more secure we are. This attitude raises the concern of many African observers in particular. Poor countries are fast losing their last means of controlling their own development: water, energy and telecommunications networks are being bought by foreign monopolies taking advantage of present globalising trends.

With privatisation without re-regulation, it is understandable that disparities have increased between countries and continents. Even within countries the gap between rich and poor is growing: there is more and more South in the North. As the Enron scandal has demonstrated, energy is often an element in nefarious business practices. The fear of terrorism in sensitive world energy deposits and corridors is even leading some countries to a military buildup which can lead to major environmental degradation.

In conclusion, even if globalisation started a long time ago -in the energy field in particular- it still needs to be better understood. And to be humanised. Despite the continuing deterioration of the environment and of the human condition in many parts of the world, people are not reacting as they should. The potential consequences of ill-founded energy policies do not seem to concern them or to wake up people like they did ten or thirty years ago when the environmental movement was born. For most people and countries, it is still “business as usual”.

What must be done? We must recap- ture and share our instinct for survival. Those of us who are aware of the world’s energy-related problems and their possible solutions have the responsibility to relay this concern and the information that we have to our fellow citizens. That is what HELIO observers are doing. As Martin Luther King once said: “We must learn to live together like brothers, otherwise we’ll die together like fools.”

Shortened by the editors.
See full text at www.inforse.org.
More info: www.helio-international.org

See CD on the Publication List, page 18
WSSD and Sustainable Energy

By Gunnar Boye Olsen, INFORSE-Europe

Never before did a UN event gather so many people as at the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa in August and September. Never before was renewable energy so much in focus at a UN meeting for sustainable development. Yet, the WSSD was not a kick-start for renewables or for sustainable energy in general. Rather, it was another step that could lead to sustainable development in energy, if more steps follow. In this issue is focus on the outcome of WSSD; in the next issue, we will discuss the coming steps.

A Small Step of Implementation

Energy is included often in the “Plan of Implementation” adopted at WSSD. Two big disappointments in the plan is that it does not have targets for renewable energy and that it does not have plans for phase-out of subsidies. These points were negotiated to the end of WSSD, but without the big result that many had hoped for. The resulting compromises are highlighted in the text in the box on page 15.

Poverty Eradication & Energy

High on the agenda was eradication of poverty following the “Millenium Goals” of halving poverty by 2015. The main instruments according to the Plan of Implementation will be a world solidarity fund and national programmes for sustainable development to promote the empowerment of people living in poverty. A number of key issues for poverty eradication received special attention in the document, including energy (see box).

Energy for Sustainable Development

In the chapter on changing unsustainable development patterns, a long paragraph is devoted to energy. This paragraph is probably the most operational regarding sustainable energy; if all the provisions for increase of renewable energy and energy efficiency, phase-out of subsidies, etc. were followed worldwide, we would be a long way towards sustainable development. Unfortunately, the paragraph – like most of the others - lacks targets, timeframes, and mechanisms for implementation.

Throughout the paragraph, renewable energy and energy efficiency are supported, but also “cleaner fossil fuels” and “advanced energy technologies” are supported (see box). While these are not further defined, the problem of this is that the text makes several references to the 9th meeting of Commission for Sustainable Development (CSD9) that includes cleaner use of coal as part of “cleaner fossil fuels” and nuclear energy as part of “advanced energy technologies” (nuclear energy or coal are not mentioned in the text from Johannesburg). The battle has already started between officials of different countries on how the text should be understood: does it include support for nuclear energy or not?

Energy Integration

Energy is mentioned in 14 other paragraphs. The need for energy efficiency is stressed for transport and for water desalination. The role of energy in the combat of desertification and for development of small island development states is stressed. Programmes are proposed for support of the African NEPAD objective to secure access to (modern) energy for at least 35 per cent of the African population within 20 years. To improve health, the text proposes assistance to reduce dependence on traditional fuel sources, which adversely affect the health of women and children.

A paragraph on climate change includes a call to develop and disseminate innovative technologies, in particular in the energy sector. In a paragraph on transport of radioactive material, governments are encouraged to improve measures regarding safety for transport by sea and across borders, including prior notification and consultations (with transit countries).

A paragraph on (not radioactive) waste proposes the development of waste management systems that include technologies to capture the energy in waste. This last proposal is problematic, since waste-to-energy systems often are incinerators that, in many cases, create considerable environmental problems.

Paragraph on Energy for Poverty Eradication in the Plan of Implementation:

Take joint actions and improve efforts to work together at all levels to improve access to reliable and affordable energy services for sustainable development sufficient to facilitate the achievement of the millennium development goals (of eradication of poverty), ....... This would include actions at all levels to:

(a) Improve access to ... energy services and resources, ..., through ... enhanced rural electrification and decentralized energy systems, increased use of renewables, cleaner liquid and gaseous fuels and enhanced energy efficiency, by intensifying regional and international cooperation in support of national efforts, including through capacity-building, financial and technological assistance and innovative financing mechanisms, ..., recognizing the specific factors for providing access to the poor;

(b) Improve access to modern biomass technologies and fuelwood sources and supplies, and commercialize biomass operations, ........;

(c) Promote a sustainable use of biomass and, ...... through improvement of current patterns of use, such as management of resources, more efficient use of fuelwood and ........;

(d) Support the transition to the cleaner use of liquid and gaseous fossil fuels, where considered more environmentally sound, socially acceptable and cost-effective;

(e) Develop national energy policies and regulatory frameworks that will help to create the ...... conditions in the energy sector to improve access to ....... energy services for sustainable development and poverty eradication;......;

(f) Enhance international and regional cooperation to improve access to .... energy services, as an integral part of poverty reduction programmes, by facilitating the creation of enabling environments and addressing capacity-building needs, with special attention to rural and isolated areas, as appropriate;

(g) Assist and facilitate on an accelerated basis, with the financial and technical assistance of developed countries, including through public-private partnerships, the access of the poor to ......... energy services, taking into account the instrumental role of developing national policies on energy for sustainable development, ......
CSD to Manage Energy
While many NGOs and several countries had hoped for a strengthening of sustainable energy in the international institutions, only one institutional change is included: it is proposed to transfer to the CSD the work of the UN Committee on Energy and Natural Resources for Development. While this looks like a weakening, it might actually be a strengthening, since this committee has never worked well, while CSD at least is a working body.


Paragraph on Energy for Changing Unsustainable Development Patterns, Plan of Implementation

Call upon Governments, ... regional and international organizations ..., to implement, ... the recommendations and conclusions of the Commission on Sustainable Development concerning energy (CSD 9) ... This would include actions at all levels to:

(a) Take further action to mobilize the provision of financial resources, technology transfer, capacity-building and the diffusion of environmentally sound technologies; ...;
(b) Integrate energy considerations, including energy efficiency, affordability and accessibility, into socio-economic programmes, especially into policies of major energy-consuming sectors, and into the planning, operation and maintenance of long-lived energy consuming infrastructures, ...;
(c) Develop and disseminate alternative energy technologies with the aim of giving a greater share of the energy mix to renewable energies, improving energy efficiency and greater reliance on advanced energy technologies, including cleaner fossil fuel technologies;
(d) Combine, as appropriate, the increased use of renewable energy resources, more efficient use of energy, greater reliance on advanced energy technologies, including advanced and cleaner fossil fuel technologies, and the sustainable use of traditional energy resources, ...; 
(e) Diversify energy supply by developing advanced, cleaner, more efficient, affordable and cost-effective energy technologies, including fossil fuel technologies and renewable energy technologies, hydro included, and their transfer to developing countries on concessional terms as mutually agreed. With a sense of urgency, substantially increase the global share of renewable energy sources with the objective of increasing its contribution to total energy supply, recognizing the role of national and voluntary regional goals ..., and ensuring that energy policies are supportive to developing countries’ efforts to eradicate poverty, and regularly evaluate available data to review progress to this end;
(f) Support efforts, ... to reduce flaring and venting of gas associated with crude oil production;
(g) Develop and utilize indigenous energy sources and infrastructures for various local uses and promote rural community participation, including local Agenda 21 groups, with the support of the international community, in developing and utilizing renewable energy technologies to meet their daily energy needs to find simple and local solutions;
(h) Establish domestic programmes for energy efficiency, ...., with the necessary support of the international community;
(i) Accelerate the development, dissemination and deployment of affordable and cleaner energy efficiency and energy conservation technologies, as well as the transfer of such technologies, in particular to developing countries, on favourable terms, ...;
(j) Recommend that international financial institutions and other agencies’ policies support developing countries, as well as countries with economies in transition, in their own efforts to establish policy and regulatory frameworks which create a level playing field between the following: renewable energy, energy efficiency, advanced energy technologies, including advanced and cleaner fossil fuel technologies, and centralized, distributed and decentralized energy systems;
(k) Promote increased research and development in the field of various energy technologies, ...., both nationally and through international collaboration; strengthen national and regional research and development institutions/centres on .... energy for sustainable development;
(l) Promote networking between centres of excellence in energy for sustainable development, including regional networks, by linking competent centres on energy technologies for sustainable development that could support and promote efforts at capacity-building and technology transfer activities, particularly of developing countries, as well as serve as information clearing houses;
(m) Promote education to provide information for both men and women about available energy sources and technologies;
(n) Utilize financial instruments and mechanisms, in particular the Global Environment Facility (GEF), within its mandate, to provide financial resources to developing countries, in particular least developed countries and small island developing States, to meet their capacity needs for training, technical know-how and strengthening national institutions in .... energy, including promotion, ...;
(o) Support efforts to improve the functioning, transparency and information about energy markets ....with the aim of achieving greater stability and predictability and to ensure consumer access to reliable, affordable, economically viable, socially acceptable and environmentally sound energy services;
(p) Policies to reduce market distortions would promote energy systems compatible with sustainable development through the use of improved market signals and by removing market distortions, including restructuring taxation and phasing out harmful subsidies, where they exist, to reflect their environmental impacts, ...;
(q) Take action, where appropriate, to phase out subsidies in this area that inhibit sustainable development, taking fully into account the specific conditions and different levels of development of individual countries and considering their adverse effect, particularly on developing countries;
(r) Governments are encouraged to improve the functioning of national energy markets in such a way that they support sustainable development, ...;
(s) Strengthen national and regional energy institutions or arrangements for enhancing regional and international cooperation on energy for sustainable development, in particular to assist developing countries in their domestic efforts to provide ..., energy services to all sections of their populations;
(t) Countries are urged to develop and implement actions within the framework of the .... (CSD9), including through public-private partnerships, ...;
(u) Promote cooperation between international and regional institutions and bodies dealing with different aspects of energy for sustainable development within their existing mandate, bearing in mind paragraph 46
(h) of the Programme of Action for the Further Implementation of Agenda 21, strengthening, as appropriate, regional and national activities for the promotion of education and capacity-building regarding energy for sustainable development;
(v) (on co-operation for interconnection of gas and electricity grids);
(w) (on dialogue forums among producers and consumers of energy).
By Thomas Mansouri, GERES, France

Passive solar architecture can improve living conditions in cold regions of developing countries. After successes in India new project on the way in Afghanistan organised by a French INFORSE member GERES.

Start of the Campaign
Afghanistan is engaged in a process of rebuilding. The role of renewable energies is of primary importance to these efforts.
GERES is starting a new project to campaign of rebuilding buildings in mountainous Afghanistan based on 20 years of experience and knowledge gained in projects in the Himalayas. The problems of people in both regions come down to the same daily concerns:
- In urban areas: to improve energy efficiency in the housing and service buildings; to decrease the costs related to the basic needs: care, heating, education, industry.
- In rural areas, in addition to these needs, the objectives are to develop income generation activities (agriculture and craft industry), and to provide the simplest housing comfort.

The Himalayas Area
In the Hindu Kush Himalayas, 150 million people live in difficult conditions due to the severe climate. Residents are confronted daily with the following concerns:
- to reduce the burden of fuelwood collection.
- to improve access to communications and market.
- to be able to stay in their villages.
- to preserve the fragile ecosystem and biodiversity for the future.

Energy availability can help to solve these problems, and can be viewed as a means to fulfill the social and economic objectives of mountain people e.g.:
- to give to communities the minimum level of energy services required to meet basic needs, such as cooking and space heating.
- to help to reduce human drudgery.
- to support economic activities.

Strategy
GERES has been working for 20 years for the benefit of local development in the Himalayas, especially by promoting well adapted and eco-friendly technologies. GERES has developed tools in Ladakh (India, Himalayan range) which are replicable in other countries, in particular in Afghanistan and in central Asia.
To attain sustainable long-term development, the Afghan population needs some adapted technologies, as they exist in Ladakh.

Our strategy is based on privileged partnerships with various local NGOs and the participation of the local population.
In Afghanistan, for 2002 / 2003, the objectives are mainly directed towards schools, dispensaries, social housing, and agricultural greenhouses.

Please read about GERES experience in passive solar architecture in Ladakh, India on the next page.

Bioclimatic, Passive Solar Architecture
The main idea of the bioclimatic architecture is to use the energy of the sun to heat a building.
The first objective is to capture the sun’s energy as much as possible. You can reach that by having a vertical wall made mainly of glass exposed to the south, which works as a solar collector and accumulates the passive energy during daytime. It is important to study the orientation and the angle of the sun during the year to know how to position this wall.
After the capture of solar energy, you have to stock this energy and redistribute it later on. To be able to do that, the building needs a thermal mass.

Financial means are required to make renewable energies known in Afghanistan. To contribute, contact us!

Renewable Energies and Environment Group. Created in 1796 in Marseilles, GERES acts concretely in a dozen of countries, in Africa and Asia, promoting renewable energy resources and energy efficiency in a development controlled by the local actors.
GERES encourages the use of local resources with the objective to respect the environment and provide well-balanced development schemes. GERES supports technically and financially various projects and 300 000 to 500 000 EUR are transferred each year to local partners.
Funding of the projects comes from EU, French government, foundations, and public funds based in the countries.
Contact: GERES, 2, cours Maréchal Foch, 13400 Aubagne France.
Ph: 33 4 42 185588, Fax: 33 4 42030156, E-mail: geres@free.fr, http://geres.free.fr/
GERES’s Experience:
Simple and NOT Expensive
Passive Solar Technology

From the Ladakhi context, GERES has pioneered passive solar architecture in the Himalayas since the early 80’s. The applications concern housing and agriculture. GERES has developed simple technologies which appeared economical, adapted, and effective.

The stakes are closely related to the area’s economic and social development. Saving money, comfort, health, services are all to be considered. Each one can be improve with adapted solutions. Precisely, solutions exist. They can be simple and inexpensive.

Domestic buildings
In Ladakhi urban areas, domestic houses are heated by conventional energy sources such as kerosene. The space heating expenditure represents 10% of an average family income: 6000 Rs (~150 ·) /year to heat two rooms during winter.

In the more rural areas, fuel collection makes up a significant part of women’s labour. They spend much of their time during the autumn in the pastureland for this hard task. Moreover, the smoke emitted by the traditional stoves irritates eyes and can cause lung disease in the long run.

Bioclimatism makes it possible for the populations to improve their living conditions and to save money.

Services and craft industry buildings
During Ladakhi winters, education, handicrafts, gathering activities, etc. are limited by cold weather, lack of fuelwood, and heating costs. The integration of passive solar architecture can facilitate these activities. The fuelwood required is reduced by more than 90% for a 15% increase of the construction cost.
• Schools: can remain open in winter.
• Administration buildings: reduced heating budgets.
• Handicrafts centres: facilitate income generation in winter.
• Community buildings: encourage social activities.
• Hospital and dispensary: increase health comfort and save budget.
GERES has taken part in several projects. Most of the resulting bioclimatic constructions are still very relevant: the passive solar operating room of Leh’s hospital, 32 houses in Spiti (Tibetan refugees camp), 3 handicraft centres in Chuchot, a dispensary in Rigaon (Nepal), the retrofit of 30 houses in Chang Tang. The passive solar extensions to the houses are built from mud or stone, wood and glass.

Agricultural development using solar energy
Ladakh remains isolated from the rest of India during 6 months of each year because of the high passes, which are more than 4500m high. During winter, the area can only be supplied by airplane. As a consequence, vegetables, chicken meat, and eggs are available in limited quantity. Prices greatly increase. Due to the cold and the lack of affordable energy, conventional greenhouses, and poultry farms are neither working, nor economically sustainable. Solar energy is particularly well adapted to the area and set up agricultural economical activities.

Greenhouses for Cold Climate
GERES has designed solar agricultural greenhouses adapted to each climate area of Ladakh, between 2000 and 4500m altitude, in order to produce vegetables all year long and diversify the production. The greenhouses are made from wood with transparent plastic cover. GERES has realised, in collaboration with local NGOs, more than 300 greenhouses following an integrated approach:
• investment mechanism
• training of local stakeholders (construction and use)
• setting up of supply networks (in seeds and polythene)
• support to the creation of local farmer’s groups

The investment for a 50 m² greenhouse is reasonable [ 20 000 Rs (~450 ·) ] and the production is significant. The average income generated by a greenhouse is 1 500 Rs (~35 ·) / month and the investment payback period is less than 3 years. The projects generally provide a maximum subsidy of 30%. Other funds come from the local promoter or through credit that the local promoter can mobilise. Demonstration models of improved greenhouses were also constructed in Spiti (India), Mustang (Nepal), and Amdo (China).

Bioclimatic Poultry farms
In such cold areas, poultry farms have to be heated from September to May. A passive solar heating system, based on local materials, is a cost-effective way to warm a poultry farm: the heating requirement is reduced by 95%, for a 20% increase of the construction cost.

In Ladakh, GERES disseminates 2 types of poultry farms:
• cottage poultry farm: 100 to 500 birds near market centres to supply this market.
• family poultry farm: 20 to 50 birds, in remote villages.

A global approach has been developed to make the poultry farm sustainable:
• appropriate feeding, based on local products with some additional minerals and vitamins given.
• training in running a poultry farm.
• vaccination, veterinary assistance, and medicine supply.

Between 1998 and 2001, 10 bioclimatic poultry farms have been established in Ladakh.
Publications

The Energy Book for urban development in South Africa
A very good introduction to energy ranging from household solutions to INFORSE’s Vision 2050.
Based on South African practice, it describes the full range of energy solutions for households and residential areas, including solutions typical for industrialised countries as well as for developing countries.
108 pages, 80 SA Rand + postage.
By Sarah Ward, edited by Robert Berold
Contact: Sustainable Energy Africa, P.O. Box 261, Nordhoek 7979, South Africa. e-mail: info@sustainable.org.za www.sustainable.org.za.

CD ROM
Energy and Ecodevelopment
An assessment of the impact of energy policies on planet earth.
The CD-Rom contains reports from 19 countries of HELIO International’s independent observers in the Sustainable Energy Watch.
The analyses are using indicators selected according to the four characteristics of sustainable development - environmental, social, economic and technological.
Published to the Rio+10, Johannesburg, 2002
Contact: HELIO International, 56 rue de Passy 75016 Paris, France.
Ph: +33 142 245148, fax: +33 142 2486 33, helio@helio-international.org, www.helio-international.org
More info: see article on pages 12-13

Wind Force 12
A blueprint to achieve 12% of the world’s electricity from wind power by 2020.
Outlines the success story of wind power today and the untapped success stories of the tomorrow.
It is a global blueprint for action which proves that, even in a “business as usual” scenario where global electricity consumption doubles within two decades, wind can supply 12% of the world’s electricity.
50 pages, EWEA, Greenpeace, 2002
Contact: European Wind Energy Association, 25 rue du Trone 1000 Brussels Belgium.
Ph: +32 2-546-1940, fax: +32 2-546-1944, Ewea@ewea.org, www.ewea.org

UN Publication for WSSD
A Framework for Action on Energy
Background paper for the Johannesburg’s Summit
Includes the lists of the Millenium Development Goals, key energy issues and challenges, major UN agreements on energy and their objectives, frameworks to action, and the UN system’s capacities in energy.
By WEHAB working group of WSSD, with major input from UNDP, UNIDO, UNDESA, UNICEF, FAO. 31 pages, August 2002

Energy and Sustainable Development
Case Studies
Including case studies from Bangladesh, China, Germany, Nepal, Ghana, India, Nicaragua.
The report was an input to the Commission’s on Sustainable Development with examples of best practices as well as illustrating lessons learned.
228 pages, ISBN 92-1-104517-7, 2002

Energy for Sustainable Development
Activities undertaken by the UN Inter-Agency Task Force on Energy at the WSSD, Johannesburg, August 2002. 20 pages
Contact: Division for Sustainable Development, United Nations Department of Economic and Social Affairs, Two United Nations Plaza, DC2-2220, New York, NY 10017, USA. dsd@un.org, www.johannesburgsummit.org

Energy and Poverty
Special Issue in the World Energy Outlook (WEO) ‘02
This publication is Chapter 13 of the WEO 2002 report.
Published in advance to the WSSD in Johannesburg.
It includes country-by-country data on electrification and biomass use rates worldwide and provides regional projections to 2030.
Key findings:
- 1.6 billion people do not have access to electricity today. In absence of vigorous policies, in 2030, this number will be 1.4 billion.
- 2.4 billion people rely on traditional biomass to meet their cooking and heating needs. In 2030, this number will be 2.6 billion.
47 pages, A5, 2002
Contact: International Energy Agency (IEA), 2 rue Andre-Pascal, 75775 Paris Cedex 16, France.
fax: +33 1 40576559, books@iea.org, www.iea.org/books
Events

October 30 - November 2, 2002
New Energy Husum, Husum Germany
Info: Herman Albers, Bundesverband Erneuerbare Energie (BEE), Ph: +49 4841 772170, fax: +49 4841 772171, e-mail: bbee-husum@foni.net, www.new-energy-husum.de

November 5th – 7th 2002
Energy Efficiency Business Week 2002,
Prague, Czech Republic.
Info: SEVEN, The Energy Efficiency Center, Slezská 7, 120 56 Praha 2, Czech Republic, Ph: +420 2 24252115, fax: +420 2 24247597,

November 7-9, 2002,
APEC Exhibition on New & Renewable Energy Technology
Info: Korea Institute of Energy Research (KIER) P.O. Box 103, Yuseong, Daejeon 305-600, Korea Tel : +82-42-860-3790 /-3139, kier@kier.re.kr, http://apekoex.kier.re.kr

November 18-20, 2002
Emissions Trading Asia Pacific 2002,
Sydney, Australia
Info: Sarah Robinson Ph: +44 20 7375 7555,
Emissions Trading Asia Pacific 2002, Sydney

November 27, 2002
Green electricity: our tool for climate protection,
Brussels, Belgium *
WWF, EUGENE Green Electricity Network
Info: Giulio Volpi WWF International
36 avenue de Tervuren Box 12, 1040 Brussels, Belgium, Ph: +32-2-743-8800 Fax: +32-2-743-8819, gvvolpi@wwfepo.org, www.greenelectricitynetwork.org

November 28-29, 2002
Sustainable Energy for Europe INFORSE-
Europe Seminar, Brussels, Belgium *
A seminar on EU and Pan-European policies and issues for sustainable energy
Info: INFORSE-Europe, Ph: +45 86 22 7000, fax: +45 86 22 7019, e-mail: ove@inforse.org
www.inforse.org/europe

December 4, 2002
European Solar Price, Berlin, Germany
Info: EUROSOLAR e.V., Kaiser-Friedrich-
straße 11, 53113 Bonn, Germany.
Ph: +49 22 8 362373, fax: +49 22 8 361279,
www.eurosolar.org

December 6, 2002
International Seminar on spatial planning for windturbines, Brest, France
Info: APAB - Avril Pen ar Bed, 1 rue de la fontaine St-Pierre, 29 470 Flougaslet Daoudas
Ph: +33 298 378 929, fax: +33 298 403 217, avel@infini.fr, info@apab.org, www.apab.org

March 5-7, 2003
World Sustainable Energy Day, Wels, Austria
Info: O.Oe. Energiesparverband, 4020 Linz, Landstrasse 45, Austria.
Ph: +43 732 7770 14386, fax: +43 732 7770 14383, office@esv.or.at, www.esv.or.at

March 7-9, 2003
SolarExpo 2003, Verona
Info: Ambiente Italia, Research Institute, Piazzetta Trenoto e Trieste 10/b, 32032 Feltre, Ph: +39 0439 840922, fax: +39 0439 849854, info@solarexpo.com, www.solarexpo.com

May 6-8, 2002
POWER-GEN -Europe, Messe Düsseldorf, Germany
Info: Ph: +44 1992 656637, fax: +44 1992 656704, e-mail: attendingpge@penwell.com, www.powergeneurope.com

May 12-16, 2003
3rd World PV Conference, Osaka, Japan
Combines the world’s 3 big PV conferences: 18th European PV Solar Energy Conference, 14th Asian PV Science and Engineering Conference, and 31st Institute of Electrical and Electronics Engineers, PV Specialists Conference.
Info: Tokyo A & T University, Kosuke Kurokawa, Ph/fax: +81 4 238-87132/-56729 kurochan@cc.tuat.ac.jp, www.cc.tuat.ac.jp or WIP Sylvestersteins 2, 81369 Munich, Germany.
Ph: +49 89 72012739, fax: +49 89 720 12791 wip@wip-munich.de, www.wip-munich.de

May 21-23, 2003
Pan-European Environmental Ministers’ Meeting, KIEV, Ukraine *
The Environment for Europe process including public participation, energy efficiency, environmental education.
Info: www.uneco.org/env/wg2/ www.euro-forum.org, See at event Dec. 7-8 ’02

February 20-23, 2003
CLEAN 2003 Bangalore, India
India International Clean Energy Expo 2003
Info: PDA Trade Fairs, ‘PDA House’, 32/2 Spencer Road, Frazer Town, Bangalore 560005, India.
Ph: 91 80 5547434, fax: 91 80 5542258, www.cleanenergyexpo.com

February 18-28, Tour: March 1-2 2003
Technology Selection for Small Hydropower Development, Rookee, India
International Training Course
Info: Alternate Hydro Energy Centre, Rookee 247 667, Uttarakanchal, India.
Ph: +91 1332 74254, fax: +91 1332 73517, ahec@ittrernet.in, ahec@ysonl.com, www.ahecindia.com. www.hydrohelp.com
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Call for Success Stories in CEE!

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Please Fax, E-mail the Corrections to Us! Deadline: November 25.