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for Sustainable Energy

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P.O. Box 2059, DK-1013
Copenhagen K, Denmark.
Ph: +45-33121307,
fax:+45-33121308
Email: INforSE@INforSE.dk
WWW: <http://www.INforSE.dk/>

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Editorial Address - New !!!!
Sustainable Energy News
Gl. Kirkevej 56, DK-8530Hjortshøj, Denmark.
Ph.: +45-86227000
Fax: +45-86227096
E-mail: ove@inforse.dk

Editors:
Gunnar Boye Olesen,
Judit Szoleczky,
Rene Karottki,
Lars Yde (technical editor),
Niki Fowler (text advice).
Layout: H.-H. B. Gustafsen.

Advisory Board:
Stephen Karekezi, FWD, Kenya
Masse Lo, ENDA, Senegal
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Benjamin Gertes, Philippines
Emil Bedi, FAE - SZOPK, Slovakia
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Emilio Rovere, IED, Brazil
Margaret Hubbard, EA/ECC, USA

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Photo: By Jane Kruse Folkecenter, Denmark & Raymond Myles, India.

Sustainable Energy News and Contact List is on INTERNET : WWW:
<http://solstice.crest.org/renewables/sen/index.html>.

INforSE on INTERNET: WWW: <http://www.INforSE.dk/>
INforSE's NGO Paper on the World Solar Summit also can be found here.

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INforSE Coordinators' Meeting Sept. '96

When the INforSE coordinators meet in Harare, Zimbabwe on September 10-11 and 18, the following topics will be high on the agenda:

- NGO follow-up on the World Solar Summit;
- monitoring of development banks;
- adult education (see below);
- improvements of the INforSE network and INforSE regional activities.

INforSE focuses on its NGO input to the World Solar Summit in Harare at September 12-17. (See "NGO Voices" Newsletter no.2 included.)

Please send proposal to the INforSE Secretariat (See page no. 2).

Photo text: Group discussion on the WSSP INforSE document at the Central Asia INforSE regional meeting in May 1996, India. Lalita Balakrishnan is to the left.

Climate COP2 Disappointments

Geneva saw yet another gathering of government officials, ministers, and NGOs in mid-July - all ostensibly to give some meaning to the Framework Convention on Climate Change. But when they departed for home on July 19, the threat of global warming still remained unresolved.
This second meeting of the Conference of Parties (COP2) turned out to be a wet squib.
Not only had no negotiations started on the text proper of a protocol for developed countries, but even the IPCC second assessment report continued to be challenged. The much-touted US ministerial statement was only strong in endorsing the IPCC findings, but remained fuzzy on legally binding targets and timetables. Japan shifted incrementally from its total opposition to a protocol. OPEC nations remained a major obstacle to progress, even on the Rules of Procedure.
The only silver lining was the Ministerial Declaration, which stated that negotiations on a protocol text must begin this December and that the protocol should be ready for adoption by COP3 in December 97 in Kyoto.

Another hopeful sign was the positive intervention from the new businesses that are involved in alternative energy sources, including renewables. This broke the apparent monolithic obstruction that the business group has put up to actual action on GHG emission reductions.

The impending World Solar Summit failed to influence positively the COP2 outcome, despite the arguably auspicious fact that the Conference Chairman was Zimbabwe's Minister of Environment.

More information:

Gurmit Singh K. S., Center for Environment, Technology & Development, member of INforSE.

CETDEM, PO Box 382, 46740 Petaling Jaya, Malaysia.

Ph: +603-77-57767, fax: 603-77-54039, email: cetdem@po.jaring.my.

Adult Education Activities

INforSE will actively take part in the preparations of the 5th International Conference on Adult Education in 1997 as mentioned in Sustainable Energy News 13. Funds are now available from the Danish International Development Agency (DANIDA) for a number of key activities:

- participation of INforSE organizations from developing countries in the Preparatory Conferences;
- publication of innovative approaches to environment, development, and adult education;
- cooperation to strengthen the links between environmental activities and adult education, as well as to strengthen NGO participation in these;
- INforSE participation in the Conference's thematic Working Group on Environment and Adult Education.

At the first regional Preparatory Conference in Jomtien in Thailand on September 16-18, INforSE will be represented by Appropriate Technology Association (ATA), Thailand.

More information: INforSE Secretariat. See page no. 2

Renewables in Kenya:

Maendeleo Stove & Power Alcohol Program

By S. Karekezi and E. Ewagata, FWD, INforSE Eastern Africa Coordinator

Biomass is the most important source of energy in Kenya, accounting for 70% of the total energy supply in the country. Since 80% of Kenya's population lives in the rural areas, and their main source of energy is fuelwood there is a need to ensure sustainable supply of the resource.

This article focuses on comparing two biomass applications: one small-, one large-scale: the Maendeleo improved cookstove and the power alcohol programme, respectively.

Maendeleo stove

The Maendeleo stove is an improved stove that is designed to

replace the three-stone hearth commonly used in the rural areas. The Maendeleo stove has an improved combustion efficiency of 30% and fuelwood savings of about 50%. An estimated 3-20 hours a week can be saved in collection of firewood per household. In addition, it emits less than half of the pollutants produced by the three-stone hearth.

Gesellschaft für Technische Zusammenarbeit (GTZ) and Intermediate Technology Development Group (IT) were involved in the development, launching and commercialization of the Maendeleo stove in over 41 districts in Kenya. The program was carried out by existing networks of governmental extension workers (e.g., agricultural). This eliminated the logistics and expenses of establishing new channels. As a result of these efforts, awareness of the Maendeleo stove was significantly raised. To date, about 250,000 Maendeleo stoves have been disseminated countrywide.

Issues of financing played a significant role in stove dissemination. Support from the two agencies, GTZ and IT, financed research and technical development of the stoves as well as transport, training, and marketing. The study, however, found that direct subsidies on the cost of the stove were detrimental to the sustainability of the stove programme. A commercial approach makes stove production lucrative to small-scale "entrepreneurs" as production costs and a profit margin are factored into the price of the stove.

Other concerns that have affected the dissemination of the Maendeleo stove are capacity-building, the environment, and equity. Over 5,000 women have benefitted from training offered by the two programmes in stove production, business skills, and financial management. Hundreds of artisans have also been trained in stove production. With rising environmental awareness, especially of the impact of air pollution and localized fuelwood scarcity, adoption of the Maendeleo stove is increasing.

Alcohol Program

The main objective of the Alcohol Program started in 1977 in Kenya was to reduce oil imports by developing alternative fuel from molasses produced by the sugar industry in Western Kenya. Of three projects planned, only one took off, a project which was undertaken by the Agro-Chemical and Food Company (ACFC). The ACFC produced anhydrous ethanol (power alcohol), which was primarily sold in the Nairobi area at a 10:90 blend with gasoline as gasohol. The gasohol was marketed and sold by oil companies. However, power alcohol procurement by oil companies consistently fluctuated either due to blender breakdowns or shortages due to sugarcane crop failure.

A 1987 request for a price hike of power alcohol by the ACFC was granted in 1992 by a Ministerial directive. Oil companies, however, continued paying the old price, which was far below the operation costs at the ACFC. Consequently, the ACFC found other markets for its alcohol.

The study findings reveal that institutional and finance issues were the main factors influencing the power alcohol programme. There were no clear policies with respect to blending, sales, and pricing. On the management and efficiency, there was no significant effort made to effectively market and distribute the gasohol. Since blending was not centralised, blenders had to be

installed at each oil depot at the expense of the ACFC, increasing its overhead costs.

Decentralised / Centralised

Comparing the two projects, our findings show that small-scale decentralized biomass programmes tend to be more successful and effective in addressing Kenya's energy problems than large-scale projects. The summary of the comparison is in the Table:

TABLE

Mendeleo stoves programme	Power alcohol programme
Largely small-scale	Large scale
Decentralised	Centralized
Locally available technology	Largely imported technology
Low investment costs	Large investment costs
Less bureaucratic	Complex decision-making
Direct benefits to users	Indirect benefits to users
Employs over 10,000 people	Employs about 1,500 people
Benefits mainly rural popul.	Benefits fewer rural people
Trained over 5,000 people	Limited training
Women empowered	Limited gender concerns
Largely addresses national environmental concerns	Addresses largely global environmental concerns

The key recommendations:

- Decentralized small-scale biomass projects should be given priority in the short and medium terms.
- Institutional support and multi-sectoral involvement are important to the success of any programme.
- Clear policies and guidelines need to be outlined from the start.
- Program should strive to identify and use existing fieldwork personnel and facilities to disseminate technology. This reduces costs and simplifies the logistics of establishing a new dissemination network.
- There is a need to establish quality control measures. Close collaboration with universities, research institutions, NGOs, and consultancies will provide useful guidelines for standards.
- Subsidizing is needed only to the technical support such as feasibility studies, training, quality control, and marketing.
- Lastly, there is a need to establish an environmental policy in support of programmes that have minimum environmental impacts.

Shortened by the editors. The article is based on 2 cases studies included in a report by FWD/AFREPREN/SEI. See Sustainable Energy News no. 13.

More information: FWD, Kenya, INforSE Eastern Africa Coordinator. See address on the back page.

Photo text: Maendeleo stove. 250,000 have been disseminated.

A: Insulating layer of mud/sand/fireash minimising smoke and preventing accidental burning

B: Tongue supporting firewood to enhance airflow under or between

the sticks

C:Top level surface for the cooking pots (Source: GTZ Sept, 1992.)

South African Development Community (SADC) Regional Seminar on Rural Energy Planning & Environmental Management

The Eastern and Southern African Management Institute (ESAMI) hosted the subject seminar, on behalf of SADC in Mbabane, Swaziland on 20-22 May, 1996.

Participants included Principal/Permanent Secretaries and Commissioners in ministries of planning, rural development, energy, environment, agriculture, and forestry, as well as chief executives of energy utilities.

Key outputs of the Seminar included:

- Development of an appropriate policy framework for sustainable energy supply and demand;
- Identification of key environmental impacts of energy systems within the SADC region;
- Preparation of relevant energy policy instruments and institutions.

More information: Dr. Ven Mvano, Project Coordinator, ESAMI, P.O. Box 3030, Arusha, Tanzania. Ph:+257-8384/8; Fax:+257-8285.

Solar Energy for the Kigogo Home for Children in Dar es Salaam

By Sylveser Hanga, The Solar Network of Tanzania

Donors are usually not very keen on covering running costs such as water and electricity bills for any small projects in any country. The people caring for the street children in Dar es Salaam have found it difficult to get any donor funds for running costs to a home at Kigogo for homeless children who are trying to attend school regularly. So it was decided to cut down on the utility costs by installing solar PV, a solar hot water system, solar cookers, and a rainwater collecting system. The Solar Network (a local NGO) and Ultimate Energy (a local business), helped by DANIDA financing, worked with the staff and the children to make the instalment possible and to run it. The system functions as a demonstration system, but it also provides the children with hands-on training in running and maintaining solar systems. Many of the children are already keen on "Umeme ya mionzi" (solar electricity). They train their peers in using the system. Switching off the light or closing the tap requires an awareness of the importance of saving energy or water in everyday life. The PV system teaches this the hard way as well; if you run the batteries down, you have no electricity. To build up experiences in new fields takes time, and the children do not give up easily. They have seen the potential of harnessing the sunlight a raw material abundantly available in Tanzania.

More Information:The Solar Network of Tanzania, PO Box 77279, Dar es Salaam, Tanzania.

Photo text: The Project Group under the solar panels in front of the Kigogo Home for School Going Children, Tanzania.

Rural Electrification in the Solomon Islands

By Robert Wadell, Appropriate Technology Community & Environment (APACE), Australia

There are several reasons why logging is continuing on a large scale:

- the logging companies' commercial desire to exploit the last remaining stands of old growth rainforest timber;
- the desire of governments to earn foreign exchange in the shortest time possible; and
- the villagers' need for income.

For the villagers to resist this process, there has to be a way of preserving their rainforest while at the same time satisfying their cash needs. One such way has arisen out of a joint operation between the villagers of Solomon Islands and APACE, a Sydney-based voluntary NGO devoted to the promotion, design, and application of appropriate technology.

Small Hydro Power Plants Everybody is Involved

Over a period of 15 years, at the invitation of the villagers, APACE has been involved in the design and implementation of small systems to generate hydroelectricity in several villages in the Solomon Islands. In these villages, initially in the Western province, the people marshalled all of their resources and worked cooperatively to create all the necessary infrastructure. The commissioning of the first system was the culmination of years of preparation and consultation with the villagers. It was preceded and followed by courses of training in the operation, maintenance, and repair of the system. This has been the pattern of all subsequent installations.

In line with APACE's general philosophy, the bringing of electricity to the village was not seen as an end in itself but rather as a means of enhancing the independence and self-reliance of the community as a whole.

Everyone in the village - men, women, and children - was involved in the process. Everyone received a benefit and therefore had a stake in ensuring a successful outcome.

Benefits

The villagers now supplied with electrical power can enjoy a number of benefits:

- They can run small cash-earning businesses such as bread-making, furniture making, and copra-drying.
- They can also have refrigeration facilities for the storage of fish, vegetables, and pharmaceuticals.
- They are enabled to keep their rainforest intact and to avoid all of the problems that the loss of the rainforest had caused for other villages.

Women Involved

A prominent feature of APACE's operations has been the involvement of women in the new technology. So often in the past, when new technologies have been introduced into villages, only the men were involved and instructed in their operation.

Women were not asked how they would like the technology to be used for their benefit.

The women involved in the installation of a system in the first village were keen to pass on their knowledge and experience to other women who were anxious to have similar technology in their own villages. This resulted to a national series of women workshops.

Trust of the Government

in New Community-Based Hydro-Electrification

In February, 1995, a Memorandum of Understanding (MOU) was signed by the Solomon Islands government and APACE. The Government showed great trust in the ability of the villagers and APACE to do something which everywhere else has been the prerogative of a centralised authority. In this case, the decentralised generation of electricity has been sanctioned by the Solomon Islands Electricity Authority, which will ensure that safety regulations are being observed.

In addition, a working group called Solomon Islands Community Electrification Committee (SICEC) was set up to draft a National Rural Electrification Policy and to design an appropriate organisation to implement a community-based hydro-electrification program.

When SICEC is fully implemented, it will make a quantifiable contribution to the national economy, and to the environment as well as to national self-sufficiency and self-reliance.

More information: APACE, c/o University of Technology, P.O. Box 123, Broadway NSW 2007, Australia. Ph/fax:+61-2-3302554 /-3302611.

Photo text: Community wiring team. Micro-hydro power is being installed. Solomon Islands.

INforSE Organisations' Initiative for a Resource Center in India
Land Donated by Villagers Seeking for Funds

Regional INforSE Meeting

By Raymond Myles, INSEDA, Central Asia INforSE Coordinator, India

In the village of Nagla Khan, India, villagers donated 2.5 acres of land to WAFFD, Women's Action For Development, to establish a Renewable Energy Resource Center (RE-REC) to meet the needs of the Bharatpur District of the desertic State of Rajasthan.

The initiative is based on the feedback of WAFFD's experience in renewable energy programs, specifically in the promotion & implementation of low - cost biogas rural household plants in several of the villages of the Bharatpur District. (See in the box)

WAFFD, member of INforSE, and INSEDA, the regional coordinator of INforSE, decided to cooperate to establish the district-level center.

Among others, this was discussed in the Central Asia Regional INforSE Meeting on May 29-31, 1996, Lucknow, India.

The center gradually would train, research, demonstrate, and perform maintenance, as well as develop training and promotional materials.

INSEDA is lobbying to get funds for the district level center which later on could be upgraded to state or zonal level center

for community based and non governmental organisations.
More information: INSEDA, INforSE coordinator. See address on the back page.

WAFD - Biogas Plants

WAFD, Women's Action For Development, established in 1978, has an aim of community development focusing on women & children of weaker sections of the society. Biogas plants are one of WAFD's focuses since 1980.

- Janata Model - (meaning "people")

In 1980, WAFD built the first Janata model, in a semi-urban village of Delhi State. The Janata model is a fixed dome model built from bricks replacing the steel model used before.

- Deen Bandhu Model - (meaning "friend of the poor")

Since December of 1994, WAFD has built 175 well functioning Deen Bandhu models in the Bharatpur District. This model is a low-cost rural household popular biogas plant that has been used in the country since 1986. It gets subsidy for construction from the National Project on Biogas Development, MNES, Govt. of India. (See photo on this page)

- Shramik Bandhu Model - (meaning "friends of the labourer.")

Lately, WAFD started the construction of a recently designed and tested low-cost biogas model made of biomass-reinforced cement mortar. 45% of its construction cost goes towards the wages of poor rural people. The bricks are replaced with locally available biomass, e.g. bamboo, pruned branches of mulberry, and date palm, which are also used by poor local people, especially women, for making baskets. (See photo on the front page)

Organic Farming Using Biogas Technology

Recently, WAFD launched a promotion of low-cost organic farming systems that use biogas technology. The villagers are encouraged to actively participate in the process through, role playing, songs, and street plays.

Why is the WAFD Biogas Program successful in the Bharatpur District where almost 100% of plants had failed before?

- One reason is the better construction techniques, comparing to the previously government-implemented plants in the area.

- The WAFD mason also gives more proper instructions about the basics of the technology from the proper feeding and maintenance to the efficient way of cooking.

- Another reason is that WAFD focuses more on people. WAFD treats biogas implementation as a development program for empowering rural people, especially women; therefore, lots of its efforts go towards awareness, education, and technical literacy. The WAFD biogas master masons remain in the villages with the plant owners during the entire period of plant construction and almost become part of their families. The mason acts as a barefoot socio-technical expert and a development agent. This is why, even though the process is slow in the beginning, it surely gains success.

(shortened by the editors)

Photo text: Deen Bandhu Biogas plant under construction in India.

Spread of Interest in Renewables in Brazil Report from the 3rd Meeting for Renewable Energy in June, 1996

By Emilio La Rovere, Brazil, INforSE Latin America Coordinator

For the 3rd consecutive year, hundreds of participants from government agencies, universities, NGOs, research centres, equipment manufacturers, and utilities, all involved with renewable energy development, met during the 3rd Meeting for Development of Renewable Energy in Brazil, held in Sao Paulo, from 25 to 29 June, 1996.

These Brazilian meetings with key invited experts from abroad are being promoted by the Permanent Forum of Renewable Energy - Solar, Wind and Biomass, constituted by both governmental and non-governmental organizations. Its main support and sponsorship comes from Brazilian Ministries (Mines and Energy, Science and Technology, Foreign Affairs), governmental bodies, utilities, the Reference Centre on Solar and Wind Energy (CRESESB) hosted by the Electric Power Research Centre (CEPEL), industry (manufacturers of renewable energy equipment), and the universities from Rio de Janeiro (COPPE/UFRJ) and Sao Paulo (USP, UNICAMP).

Small Hydro Included in the National Plan

The main outcome of this event was the presentation of the National Plan of Action for the Development of Renewable Energy. Besides solar, wind, and biomass energy, the scope of the Plan was enlarged this year to include small hydropower (defined as plants of up to 10 MW capacity). A target in this field was set of reaching an overall installed capacity of 2500 MW within the next 10 years.

Creation of a Reference Centre on Biomass Energy in Sao Paulo

Another important announcement was the creation of a Reference Centre on Biomass Energy in Sao Paulo with support from federal and state governmental institutions.

Two 30 MW Wind Power Plants Got Funding

Growing interest is also shown in wind energy, particularly in the North-eastern region, where the potential for installing aerogenerators is larger.

For example, COELCE, the utility in the state of Cear, conducted the feasibility study and obtained international funding to install two 30 MW plants scheduled to start operating in 1999 and 2001.

PV Gaining Leading Role in the Rural Electrification

While the ethanol programme is facing tremendous difficulties, renewables are gaining momentum again in research, development, and demonstration.

Rural electrification projects based on photovoltaics play a leading role. For instance, CEMIG, the utility in the state of

Minas Gerais, plans to install 700 small systems (1 or 2 panels) this year and has a target of 4,000 projects by the end of 1998

Spread of Interest International Seminars

Two other international seminars on Solar and Wind Energy were held on August 5-9, 1996 in Salvador (state of Bahia) and August 12-16, 1996 Florianópolis (state of Santa Catarina), well illustrating the spread of interest in these fields all over the country.

More information:

Emilio la Rovere, INforSE Latin America Coordinator, Brazil. IED - Instituto de Ecologia e Desenvolvimento, rua da Assemblera 10, sala 816, Rio de Janeiro, CEP 20119-900, Brazil. Ph/fax: +55-21-531-2948 at Univ. Ph/fax:+55-21-2709995/-2906626. Email: emilio@ppe.ufrj.br

Photo text: Vestas windmill park in Denmark.

A wind mill park will be a common view in Ceara State, Brazil in 3 years.

The utility obtained international funding to install two 30 MW wind plants and international tender is planed to be subscribed in 1996.

The total wind potential in the state is assumed to be 8,000 MW. The yearly average wind speed is about 8 m/s.

Source of the photo text: "Danish Wind Power in Brazil, Part 1: The future of wind power in Brazil, market analysis" by Niels Husted Rich, Folkecenter for Renewable Energy, Denmark)

Photo: By Vestas, Denmark.

Alert! A New US National Outlook? US Renewable Energy Program Ends in 1999?

Combining the 23% cut in 1996 with the House Appropriations Committee recommended 20% cut for 1997 would reduce the Federal Renewable Energy Program to about half (in real terms) its 1995 capability. If continued, this downsizing trend would bring the Program to an end in 1999.

A Presidential veto is possible and efforts are underway in both chambers to raise the 1997 Appropriations Committees' marks in floor action. Floor action to reduce spending further is also possible.

The Federal Renewable Energy Program, budget of the Department of Energy (DOE), includes R&D funding, tax credits, and a regulatory framework ensuring utility purchases of electricity from independent renewable power producers.

Table 1

Renewable Energy R&D
(constant 1996 \$US)

Year Million \$ US

1979 1,300

1990 132

1995	340	
1996	254	
1997	?	327- 202

The spending history for DOE renewable energy R&D can be viewed within the context of DOE spending for the three other energy R&D programs. See in Table 2.

Table 2.
US R&D Spending History
[Million \$ US]

(constant 1996\$US]		
1948-72	73-95	
Nuclear	21,000	41,000
Fossil	5,000	20,000
Renewables		10,000
Efficiency		6,000

1995

The passage of the Energy Policy Act (EPACT, P.L. 102-486) and a priority commitment to renewables by the Clinton Administration raised the spending levels for 1994 and 1995.

1996

The Administration's 1996 DOE budget request reflected this priority by seeking \$372 M, a \$28 M increase, primarily for export promotion and pollution prevention. Stressing budget deficit concerns, the 104th Congress rejected this bid. The 1996 appropriation of \$254 million is about \$77 M lower than the 1995 mark.

1997

- DOE Budget Request is 327 M\$, \$73M more than the 1996 budget. It includes increases of \$27 M for biofuels, \$25 M for photovoltaics, and \$18 M for wind

- The House Appropriations Committee recommends \$202 M. It would cut wind-energy spending by \$26 M and photovoltaics by \$6 M, while terminating deployment and in-house energy management.

- The Senate Appropriations Committee recommends \$215 M. Relative to the House mark, it increases wind-energy funding by \$9 M, but it would also terminate the National Renewable Energy Laboratory (NREL). and it cuts hydrogen by \$6M.

More information: The report by Fred J. Sissine, Science Policy Research Division Congressional Research Service is available at <http://www.crest.org/pub/policy-and-econ/pending-legislation/rs2.txt>. Updated July 19, 1996.

Biomass-Fired Gas Turbine, USA

A current trend in industrialized countries is the use of increasing number of smaller and more flexible biomass-based plants for cogeneration of heat and electricity. A newly developed biomass cogeneration plant in Knoxville, Tennessee, USA, is at the cutting edge of one of the promising technologies behind this development.

The plant combines a wood furnace with a gas turbine. A hot, pressurized flue-gas filter cleans the exhaust gas from the furnace before it drives the power turbine. The plant can run on fresh cut sawdust (40% humidity), and produces 5.8 MW of electricity, while consuming 10 tons sawdust/hour, and delivering heat as hot exhaust gas at 370 oC. This gives an electric efficiency of about 19% and overall efficiency of up to about 75%. The exhaust gas can be used in a steam turbine, increasing electric output to 9.6 MW, and electricity efficiency to over 30%.

The plant in Knoxville has been operating since spring this year, and can be visited during the Seventh National Bioenergy Conference, September 15 - 20, in Nashville, Tennessee.

More information on the plant in Knoxville: BIOTEN, 10330 Technology Drive, Knoxville, Tennessee, 37932, USA, ph:+1-423-675 2130, fax: +1-423-966 2070.

INforSE - Europe to Lobby EU & Collect Renewable-Energy Case Data

At the 1996 annual INforSE - Europe meeting on June 30, a new Action Plan was approved. It sets the framework for the next year's activities of INforSE - Europe. Emphasis will be on the following items:

- A campaign to monitor and lobby EU institutions on energy questions. APERE in Belgium and the INforSE-Europe secretariat in Denmark will allocate resources to follow ongoing EU issues, circulate the information among INforSE-Europe members, and publicise INforSE positions on the different issues in question.
- Collection of renewable-energy case data from Central and Eastern Europe will continue the work begun in the project for assessing renewable-energy potentials (see SEN no. 13). This new project will first provide an overview of renewable-energy technologies in Slovakia, Hungary, and Western Ukraine. Later, more countries will be included and an international overview will be made.
- A European sustainable energy seminar is planned for the first week of July 1997 in Hungary in cooperation with other European energy NGO networks. As part of this seminar will be the 1997 INforSE - Europe meeting.
- A new INforSE-Europe email list is being established.
- The INforSE-Europe sustainable-energy-company database will be developed further. It is available on diskette.
- INforSE-Europe asked the NGO Bank Watch Network for cooperation on monitoring energy lending from development banks, specifically, concerning Central and Eastern Europe.
- Finally, an important part of the activities of INforSE - Europe is to take part in the worldwide campaigns and other

activities of INforSE. A special European information project is planned for the Solar Summit including a follow up meeting.

The INforSE-Europe coordinators, Emil Bedi, Slovakia and Gunnar Boye Olesen, Denmark were both re-elected at the meeting.

More information: INforSE-Europe. See at the back page.

Successful Urban Ecology Conference

At "The City as an Organism", 170 participants from 26 European countries discussed how to develop sustainable cities with respect to energy, water, traffic, urban planning, social organization, and many other aspects of urban ecology. Most of the participants took part in the 16 workshops, each of which discussed a special topic and produced an exhibit. (See photo)

These exhibits are now circulated in the Copenhagen area as a mobile exhibition. Other outcomes of the conference were:

- a statement from the participants, calling for continued cooperation among NGOs on collecting cases for good practices in urban ecology "from the bottom", develop a list of urban ecology groups in Europe, and secure NGO participation in the Sustainable Cities Conference in Lisboa in October (see on p. 11).
- a report summarizing the plenary sessions and workshops.

The conference was organized by OVE, The Danish Organization for Renewable Energy in cooperation with INforSE-Europe and local organizations.

Conference report available at: OVE/INforSE-Europe, address at back page.

European Energy Conservation Strategy

At the European Environmental Ministers' Meeting in Sofia, October 1995, an Environment Program for Europe was approved, including the idea of a European Energy Conservation Strategy.

Preparation of this strategy is now in progress within the UN-ECE

(Economic Commission for Europe), with the aim of formulating a proposal before the next Environmental Ministers' Meeting, which is to be held in Denmark in 1998. The first, informal meeting was held on July 4, and the next meeting will be on October 14-15. NGOs have been granted one seat in the meetings.

Developments will be followed by INforSE-Europe as well as by the NGO Coalition "Environment for Europe" which followed the Sofia meeting.

Sofia NGO Follow Up

The follow-up of the Sofia Conference and the preparation of the next Pan-European Environmental Minister Conference will also be discussed at the NGO Coalition "Environment for Europe" conference in Brussels on October 25-27, where the NGO preparations will start for the next Environmental Ministers' Conference, which is to be held in June, 1998, in Aarhus, Denmark. Topics to be discussed at the conference will include NGO priorities and election of a new NGO steering committee for the process.

More Information: EEB, 26, rue de la Victoire, 1060 Brussels, Belgium. Ph/fax:+32-2-5390037/ 5390921, email: eeb@gn.apc.org.

Sustainable Cities, Lisboa, October 6-8, 1996

The cities of Europe will set urban environment on the agenda on the 2nd Sustainable Cities Conference. Four networks of cities united in the "European Sustainable Cities and Towns Campaign" supporting the conference. NGOs will also be allowed into the conference, as far as space allows, and with a participation fee of approx. 150 US\$.

More Information: Camera Municipal de Lisboa, Praca do Municipio, 1194 Lisboa, Portugal. Ph/fax:+351-1-3476889/-3429505, email: cmlgri@telepac.pt.

EU Update

Electricity Directive Coming

A common position on the EU directive on electricity markets was reached at the EU Energy Ministers' meeting, June 20, after 4 years of negotiations. With this recent development, a binding directive can be expected within a year. The common position includes most of the previous agreements (see Sustainable Energy News 11 and earlier). One new element is an agreed-upon timetable for permitting large consumers to buy on an open electricity market, across the borders:

- starting in 1999, consumers above 40 GWh/year will be granted such access (22% of electricity sales);
- starting in 2000, consumers above 20 GWh/year (27% sales);
- starting in 2003, consumers above 9 GWh/year (33% sales).

The paragraph on public service obligations still includes environmental protection as one of the costs that a state may ask all consumers to pay, including those trading on the free market. According to previous agreements, this can allow countries to give preferential treatment to non-polluting energy sources, but it is a question of national policy. There will be a second hearing in the EU Parliament before the directive takes effect. INforSE-Europe organizations are now analyzing the implications of the directive for renewable energy and efficiency. Following the agreement on electricity, the Irish presidency of the EU has started negotiations on a gas directive. It is possible that an agreement on a gas directive can be reached quite quickly, building on the agreements of the electricity directive.

No IRP Directive

The proposed directive on integrated resource planning (IRP) in the electricity sector was not approved by the last Energy Ministers' Council. Because of the limited support for the proposal, negotiations will not continue. This means, effectively, that there will not be an IRP directive with binding obligations for the EU countries. The EU Commission can now decide to make an IRP recommendation, but it might not find it worth the effort.

With this measure not approved, it will be even harder to reach the CO2 stabilization and reduction goals of EU.

Efficiency Standards for Fridges

Efficiency standards for freezers and fridges have been approved by the EU Parliament in June at the same level as agreed by the Energy Council in December 1995. They decided upon a 15% efficiency increase over the current level, with voluntary agreements for further improvements. This was better than the 10% increase proposed by the EU Commission, but still is very modest compared with the technical potential.

15% Renewables Called by EP

The European Parliament (EP) now calls for 15% renewable energy in the 12 "old" EU countries. This is much more ambitious than the official EU goal of 8% renewable energy by 2005 for the "old" countries (the "new" EU countries, Austria, Finland, and Sweden, already have a +35% share of renewable energy). It is important for the renewable/sustainable energy organizations to follow up on the implementation of this new goal. This can be a key part of a EU environmental plan that includes stabilization and reductions of CO2 emissions.

Sources: Danish Energy Agency, EC-Inform Energy (lyons@ecinform.demon.co.uk), and others.

Reactors Can Be Not Only Nuclear But Also Biological, Russia

By Eduard Gismatullin, Greenpeace Russia anti-nuclear campaign.

Russia is the biggest country in the world, with a huge bio-energy potential which is not being efficiently used across the country. The total potential of bio-mass resources is 7,000 million tonnes of oil equivalent (Mtoe.) for the whole of Russia. Of this, according to an official report (* See table), 37.1 Mtoe is technical potential and 24.5 Mtoe is economical potential. Part of the biomass potential is manure and organic waste of which Russia produces 350 Million tonnes annually. From this it should be possible to get 95 Billion m3 of bio-gas equal to 66 Mtoe, almost 1.5 times more than the amount provided by Russian nuclear power plants.

We are spending a fortune on solving the problem of nuclear and organic wastes, and investing money to increase the safety of the nuclear power plants.

We now have a real opportunity to stop dangerous Russian reactors and replace them with alternative sources of energy and energy-efficiency measures. We must seize this opportunity!

In Russia, technically accessible and economically profitable

know-how does exist which

- provide autonomous bio-gas stations for producing energy,
- prevent transportation of fuel to remote places. (70% of Russia),
- deal with the organic wastes of farms and cities,
- improve the environment especially around farms where the organic waste pollutes the soil and the nearby rivers,
- produce organic fertilizers.

But bio-gas stations are not very common in the former USSR. There is almost no production. In the whole former USSR only about 60-80 reactors were built. There are such great possibilities for this technology, but since the economic situation is not stable at the moment, and there is obvious prioritization of nuclear and natural gas energy production, not enough money is being provided for research into alternative energy resources. This makes it extremely difficult to introduce these technologies into the Russian energy market.

Biogas Plant Visited

Last winter and this summer, I visited one of the few bio-gas stations in the Moscow suburbs. A group of enthusiasts built, on a small cattle farm, the station BIOEN-1 by investing their own money in it in 1994-1995. It should produce energy and fertilizers from the waste of 20-25 cattle and consists of 4 bio-reactors. The station reprocesses 1 ton of biomass a day, producing 40 m3 of bio-gas, enough for 80 kWh and 800 Mjoul of heat as well as 1 ton of fertilizers. This energy should be enough for 10 families of 4 people to live in Russian climate conditions.

More information on bioreactors: Center EcoRos, Lomonosovski prospekt, 33, bldg.2, office 21, Moscow 117192 Russia. Ph: 7 (095) 147 3669, 152 6755.

More info on Energy in Russia:

Greenpeace Russia: Dolgorukovskaya str, 21 Moscow 103006, Russia.
Ph/fax: 7-(095)-9783950/ 2519088,
e-mail: gis@green2.greenpeace.org.

Photoes: The farm with Eduard Gismatullin at the BIOGEN-1 station, in Russia.

The Bioreactor with the author, Eduard Gismatullin (left), and the directors of the biogas station at the farm: E. Pantskhava and V. Pozharnov.

Table: Energy potentials of Russia
[Million tonnes of oil equivalent]

	Theoretical	Technical	Economical
Small Hydro	250	87.5	45.5
Bio-Mass	7,000	37.1	24.5
Wind Energy	18,000	1,400.0	7.0
Solar Energy	160,000	1,610.0	8.7

* Russian Federation Ministry of Fuel & Energy Report '94: The concept of development and use of possibilities small-scale and non-traditional energy production in the energy balance of Russia.

Efficiency Tests on the New Peko Pe Stove in Uganda

By Per S. Nielsen, Technical University of Denmark, Denmark.

There are many options for reducing the biomass consumption in the food preparation process. Looking at the total energy chain from biofuel to the final meal, many technical improvements are possible. There are also many options which are non-technical. These are closely related to the cooking performance. In relation to technical options, the choice of fuel, optimisation of heat transfer, and efficient combustion processes are important. The non-technical options include, for instance, the use of lid, skills in firing control, and organisation of the food preparation process.

The central problem in obtaining high efficiency for the popular three-stone stove in real life is the firing control. With three-stone stoves, it is difficult to obtain the optimal distance between fire and pot and to keep the fire in the optimal combustion state, as heat is lost with large flames.

Peko Pe Tested

The Peko Pe is a newly developed gasifier stove developed by the Norwegian Paal Wendelbo. It is basically a pyrolysis gasifier.

(See figure.)

The stove was tested at the Technical University of Denmark and in the Adjumani Refugee Camp in Uganda in 1995:

- In Denmark, the stove efficiency was 24-26% burning dry woodchips (10% moisture) with a caloric value of 16MJ/kg of woodchips.
- In Uganda, the tests showed a stove efficiency of 21-23% with a caloric value of 15 MJ/kg of grass.

The idea of the tests with grass in the Adjumani refugee camp in Uganda was to develop the gasifier stove to be able to use as fuel the grass available in the refugee camp, which in any case would be burned in bush-fires.

In the refugee camp, the stove was tested with 20-cm-long grass straw of two different diameters, 3-4 mm and 7-8 mm. Generally, the thinner grass burned better than the thicker grass.

The stove provided heat enough to boil a meal in around 45 minutes after reaching the boiling temperature. The radiated heat made it possible to boil the water for another 25-30 minutes after the combustion was stopped. This is a so-called charcoal effect. This effect was not seen in the tests on woodchips in Denmark.

Further technical options to examine to improve the efficiency of the stove include: changing the number of holes, the height of the chamber, variation of biofuel source, and specifying the role of the moisture percentage.

Socio-economic aspects

In the camp of 100,000 refugees in Uganda, a workshop was established in cooperation with Accord, a UK NGO and the Norwegian Association for the Disabled.

Technicians, disabled people and women were trained to produce, sell the stoves and cook with the stove. Further aspects to examine are:

- How is it received by the cook?
- What kinds of food can be made on the stove?
- Even though the stove is cheap, can people afford to buy it?
- To what extent are people willing to accept preparation of the biomass if necessary?

More info: Per S. Nielsen, Department of Buildings & Energy,
Bldg. 118, Technical University of Denmark, 2800 Lyngby, Denmark.
Ph/fax:+45-4525-1949/ -45934430, e-mail: psn@ibe.dtu.dk.

Photo text: The Peko Pe gasifier stove.
The figure illustrates the pyrolysis in the stove while burning grass. It shows the combustion 5-10 minutes after ignition where the upper part of the grass is burned. The grass is ignited from the top and placed vertical. The stove is made of 2 tins: an inner combustion chamber and an outer shell. The inner chamber (diameter 15cm, 20cm high) has diameter 0.8 cm air-holes in the bottom, in the middle and at the top.

Peko Pe / Three-Stone Stove

Advantages:

- burns without smoke and CO emissions are low.
- is easy to ignite.
- is rapid in achieving boiling temperature, and it has a charcoal effect, when grass is used.
- is relatively cheap to produce.
- easy to move and carry around.

Disadvantages:

- metal, tools, skills are needed to produce the stove.
 - biomass needs treatment which depends on the biomass source.
 - it needs dry biomass.
-

***** Publications *****

- Improving the Environment and Promoting Employment in Denmark
Summary of a study prepared by Economic Council of the Labour
Movement, Denmark and the Centre for Alternative Social Analysis.
1995, 45p.

- Elements of a Green Energy Plan which can create Jobs
Opportunities with Appendix with calculations
Edited by Ole Busck, SID, General Workers Union in Denmark
1996, 59p.

Contact: Kampmannsgade 4, PO Box 392, 1790 Copenhagen V, Denmark
Ph/fax: +45-33142140/-33972460

- Mini- and Micro hydropower Development in the Hindu
Kush-Himalayan Region- The Nepal Perspective
Report of 14 Seminar Paper presented in a workshop in September
1994 organized by ICIMOD.

By editors R.D.Joshi & V.B.Amatya
October 1995, 102 p.

Contact: International Centre for Integrated Mountain Development (ICIMOD) 4/80 Jawalakhel, GPO Box 3236, Kathmandu, Nepal.
Ph/fax: +9771-525313/-524317, Email: icimod@mos.com.np.

- Renewable Energy Strategies for Europe Volume I: Foundations and Context.

Basis of Policy in EU: trends, assessment, research tech. development. Driving Forces, External dimension: global, Central Eastern Europe, Maghreb and Egypt, aid programs, developing world.

Examples of market stimulations from California, Denmark, Austria, Mediterranean, UK, Sri Lanka, Brazil.

By Michael Grubb, The Royal Institute of International Affairs. 1995, 224 p., £12.95+P&P.

Contact: RIIA, Chatham House 10 St James's Square London SW1Y 4LE UK. Ph/fax: +44 171-957-5700/5710.

- Charcoal Dilemma, Finding a Sustainable Solution for Brazilian Industry

Brazil is the world's largest producer and consumer of industrial charcoal, but the charcoal-based pig-iron and steel industry is at a crossroad.

By F. Rosillo-Calle, M.de Rezende, P.Furtado, D.O.Hall. Biomass Users Network.

1996, 80p, £5.95+P&P

Contact: Intermediate Technology Publication, 103/105 Southampton Row, London WC1B 4HH, UK. Fax +44-1752-202331.

- Improving Energy Efficiency in Apartment Buildings

By John DeCicco & Rick Diamond, Lawrence Berkeley National Laboratory Sandra Nolden, Citizens Conservation Corporation et.al.

1995, 300p., £32, +P&P.

Published by ACEEE

- Energy Efficiency & the Paper Pulp Industry

By Lars J Nisson & E, Larson, Princeton Univ. K.Gilbreath, Chesapeake Paper Products Company, A. Gupta, NRDC.

Published by ACEEE.

1995, 65 p., \$24, +P&P.

Contact: American Council for an Energy Efficient Economy, ACEEE Publications, 2140 Shattuck Ave, Suite 202, Berkeley, California 94704. Ph: 1-202-4298873 or 1-510-549-9914.

Email: glee_murray@ccmail.pnl.gov or <http://crest.org/aceee>.

Independent NGO Evaluation of National Plans for Climate Change

- Climate Change Mitigation

4th (Interim) review of 20 OECD Countries.

By 20 NGOs from all over the world like CAN, Greenpeace, Sierra Club, OVE, WWF, NRDC, Germanwatch, WISE, Earth Watch et.al.

June 1996. 46 p.

Contact: Climate Network Europe, 44 rue Taciturne, 1000 Brussels, Belgium. Ph/fax: +32-2-2310180 fax: -2305713, email: canron@gn.apc.org.

- Global Warming, A guide to market-based controls on the energy sector

By Ian Fells & Lisa Woolhouse

1996, 135p, £195, 50% reduction for academics.

Joint Implementation, Opportunities for Business under the UN
Framework Convention on Climate Change
By Deborah Adams
1996, 154p, £395, 50% reduction for academics
Contact: FT Energy Publishing, 149 Tottenham Court Road, London
W1P 9LL, UK. Ph/fax: +44-171-8962241/-8962275.

periodical:

- Medium/Small Hydro Power & Equipment
No 2, 1996 is 100 pages. It is published by HIC, Hangzhou
International Centre on Small Hydro Power.
Contact: Int. Network on Small Hydro Power, PO Box 607, 4 Baisha
Road, Hangzhou, 320006, China. Ph/fax: 0571-7055489/-7055492.

Events

* Event with INforSE participation

September 10 -18, 1996 *
INforSE Coordinators Meeting, NGO Forum, INforSEWorkshops
Harare, Zimbabwe
Info: "World Solar Summit, NGO Voices" Newsletter included, and
the INforSE Secretariate. See on pageno. 2.

September 16-17, 1996 *
World Solar Summit, Harare, Zimbabwe
Info: WSS Organising Committee, PO Box 4240, Harare, Zimbabwe.
Ph: +263-4-727005, fax: +263-4-706295.

September 22-25, 1996
2nd European Biofuels Forum, Graz, Austria
Info: Joanneum Research, 2nd European Biofuels Forum,
Elisabethstr. 11, A-8010, Graz, Austria.
Fax: +43-316876-320.

September 23-30, 1996
15th International Conference for Industrial Energy Mgmt.,
Leipzig Germany
Info: Sikom Leipzig GmbH, Ritterstr. 42, 04109 Leipzig, Germany.
Fax: +49-341-2-117924.

September 30 - October 1, 1996
First European Energy Crops Conference, Enschede, Netherlands
Info: John Vos, Biomass Technology Group, Univ. of Twente, PO Box
217, 7500 AE Enschede, The Netherlands.
Ph/fax: +31-53-489-3249/3116,
email: ecrop.btg@ct.utwente.nl.
See also article in SEN #13 page 11.

October 1-2, 1996
Energy and Power Expo, Beijing China
Info: Adsale Exhib. Services Ltd, 4/F Stanhope House, 734 Kings
Road, North Point, Hong Kong. Ph/fax: +852-28118897/-25165024.

October 3-4, 1996

Transport, Energy & Environment, Helsingør, Denmark
European Conference, 10th anniversary of the Danish Ass. of
Energy Economics
Info: Helle Balmer, 9 Rosenørns Alle, 1970 Frederiksberg C,
Denmark. Ph/fax: +45-31-390111/-395958.

October 7-9, 1996
REAP '96 Conference & Exhibition, Manila, Philippines
Info: Alternative Dev. Asia Ltd. 5/F 3 Wood Road, Wanchai, Hong
Kong. Ph/fax: +852-2574-9133/-1997, email: altdev@hk.super.net.
See also article in SEN #13 page 8.

October 7-11, 1996
International Course: Small Hydro Development, New Delhi, India
Info: See at the event February 3-7, 1997

October 15-18, 1996
ENEF'96, Slovakia
2nd International Conference & Exhibition of the Association of
Energy Managers of Slovakia.
Info: Marian Rutsek, Kukucinova 5, Banska Bystrica, PSC 97401,
Slovak Republic.
Ph/fax: +42-88-723320.

October 19-20, 1996
Energy & Environment in Palestine, Challenges for Dev. &
Reconstruction, Nablus, Palestine.
Info: The Palestinian Energy & Env. Research Center, PO Box
51791, Beit Hanina, Jerusalem. Ph/fax: +972-7824211, email:
pec@planet.edu

October 22-25, 1996
Energy Africa '96, Nairobi, Kenya
Info: Tracey Nolan, 37 Upper Duke Street, Liverpool L1 9DY, UK.
Fax: +44-151709 7801.

October 23-25, 1996
Congress Energy & Environment, Opatija, Croatia
Info: Croatian Solar Energy Association, Vukovarska 58, 51000
Rijeka, Croatia.
Ph/fax: +385-51-514-562, email:huse@rijeka.riteh.hr.

October 28-November 1, 1996
Velo Australis, International Bicycle Conference Fremantle,
Australia
Info: Promaco Conventions Pty Ltd. PO Box 8190, Canning Bridge,
Western Australia 6153. Ph/fax: +61-9-3648311/-3161453,
email: promaco@cleo.murdoch.edu.au.

January 6-10, 1997
3rd International Conference on Solar Cookers Use and Technology,
Tamil Nadu, India.
Info: Rajammal Devadas, Avinashilingam Deemed University,
Coimbatore 641043, India. Ph/fax: +91-422-440140/-438786.

January 8-10, 1997.
Passive and Low Energy Architecture, Kushiro, Japan
Info: Secretariat, PLEA 1997 Kushiro Conference. Ph/fax
+81-33798-5122/-5130.

January 13-19, 1997

Technology Exchange of Solar & Biomass Energies, Haikou City,
China

Info: Song Yuhua, DCAST, No 13, Block 4, People South Road,
Chengdu 610041, China. Ph: 028-5541487, Fax: 028-5212250.

January 22-24, 1997

Energy & Economic Growth - Is Sustainable Growth Possible?, New
Delhi, India

20th International Conference hosted by Indian Ass. for Energy
& Env. Economics.

Info: Dr Leena Srivastava, Tata Energy Research Institute,
Habitat Place, Lodhi Road, New Delhi 110 003 India. Ph/fax:
+91-11-462-2246/-1770

February 3-7, 1997

Hydro Centenary, Hyderabad, India

Info: C.V.J. Varma, International Association for Small Hydro.

CBIP Building, Malcha Marg, Chanakyapuri, New Delhi 110021,
India. Ph/fax: +91-011-3015984/-30116347, email:

cbip@cbipdel.uunet.in.

February 4-7, 1997

R'97 - Recovery, Recycling, Re-integration, Geneva, Switzerland
3rd International Congress with Exhibition, language: English,
French, German.

Info: EMPA, Dr Xaver Edelmann, Chairman PO Box, CH-9001 St
Gallen.

Ph/fax: +41-71-300101/-300199.

February 17-20, 1997

The Gulf Show, Middle East Alternative Energy Exhibition, Abu
Dhabi, United Arab Emirates

Together with AGROFISH, AQUA, EVIRO Exhibition.

Info: PO Box 5546, Abu Dhabi United Arab Emirates, Ph/fax:
+971-2-446900/-446135. In Europe: Brussels Int. Trade Fair,
Ph/fax 32-2-477-0576/-0465.

March 3-5, 1997

International Conference & Exhibition on Village Electrification
through Renewable Energy, New Delhi, India.

With MNES & IREDA of Gov of India.

Info: CASE, level 3, 81 St Georges Terrace, Perth australia.

Ph/fax: +619-321-7600/-7497, email: case@wantree.com.au

June 30 - July 4, 1997

14th European PV Solar Energy Conference Barcelona, Spain

Info: European Commission, Joint Research Center, H.

Ossenbrink/EPVSECE 14, 21020 Ispra (VA) Italy. Ph/fax:

+39-332-785885/-789268, email: jennifer.rundle@jrc.it

July 14-18, 1997 *

5th International Conference on Adult Education *

Info: UNESCO Institute for Education Ph: +49-49-448041-0

fax: +49-40-4107723. e-mail: uie@unesco.org.

22-24 July, 1997

ISAAE'97 Johor Bahru, Malaysia
Int. Symposium on Advances in Alternative/Renewable Energy
Info: Universiti Teknologi Malaysia, Locked Bag 791, 80990 Johor
Bahru, Malaysia. Ph/fax: +60-7-5504758/-5566159, email:
othman@fkj.utm.my.

August 24-29, 1997
ISES 1997: Future Globe in the Sun, Korea
Info: Korean Solar Energy Society, 635-4 Yeoksamdong, Kangnamgu,
Seoul 135730, Korea. Fax: +82-2-5689208.

November 19-21, 1997
4th European Conference on Energy Efficient Lighting, Copenhagen,
Denmark
Info: Gert Nielsen, Association. of Danish Electric Utilities,
Resen>rns Alle 9, 1970 Frederiksberg C, Denmark.
Ph/fax: +45-31-390111/-395958.

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Join INforSE

International Network for Sustainable Energy (INforSE) is a
worldwide network of NGOs unified by a common goal - long-term
sustainable energy development and a phase out of nuclear and
fossil energy consumption.
INforSE was formed at the Global Forum in Rio de Janeiro, Brazil
in 1992.
Presently, 154 organizations are members of INforSE worldwide.

Membership
INforSE is open to membership for independent organizations.
Membership is free of charge, though voluntary contributions are
welcome. INforSE has core members and associate members.
Core members of INforSE are independent organizations which
support in their words and actions the energy strategy behind
INforSE, "Sustainable Energy Development - Towards a World
Strategy", and that are approved by their respective INforSE
region. Core members have voting rights at regional meetings.

Regional Activities
In each of the INforSE regions, member organizations and the
regional coordinator(s) organize regional INforSE meetings and
initiatives including conferences, workshops, campaigns, and
research projects.

Joint Activities
INforSE lobbies to promote sustainable energy solutions which
utilise decentralised approaches. All activities seek to protect
the environment and to achieve development.
Workshops, statements, exhibitions are also prepared for several
United Nations events and their parallel NGO Forums including:
the World Summit for Social Development '95, Climate Summit in
Berlin'95, World Conference on Women'95, UNESCO World Solar
Summit'96 and the 5th International Conference on Adult Education
in 1997.
The views and initiatives of each region are presented by the
coordinators at annual meetings where INforSE's global activities
are planned. This year, the annual meeting is in September,

Harare, Zimbabwe.

The information exchange is facilitated by the quarterly newsletter "Sustainable Energy News" and the annual "Worldwide Sustainable Energy Contact List". These publications are distributed in 2,000 copies and on internet.

INforSE launches campaigns and publishes research reports such as a colourful campaign paper entitled "Energy for a Better Life: Sustainable Energy for Social Development" and reports on EU and multilateral funding programs which can be of interest to NGOs working with sustainable energy in the third world.

INforSE is publishing 4 issues of "World Solar Summit NGO Voices" in English and French.

The INforSE publications are free of charge for NGOs as long as possible.

INforSE is supported by the Forum for Energy and Development, Denmark which is an umbrella organisation of Danish NGOs working on development and energy issues.

Please feel free to contact us at the INforSE Secretariat, at our home page on internet (See on page no. 2) or at the INforSE regional coordinators (See in the box).

INforSE Coordinators

Africa, Eastern

FWD - Foundation for Woodstove Dissemination,
P.O.Box 30979, Nairobi, Kenya,
Ph.: +254-2-566 032,
fax:+254-2-740524/561464,
email: stephen_karekezi@elci.gn.apc.org
att. Stephen Karekezi, Timothy Ranja

Africa, Western

ENDA-Energie, 54 rue Carnot, B.P. 3370, Dakar, Senegal.
Ph.: +221-225983/222496,
Fax: +221-222695/-235157,
E-mail: energy@endadakar.gn.apc.org
att. Youba Sokona, Masse Lo

Eastern Asia & Pacific

PCATT- Philippine Center for Appropriate Technology & Training,
224 Diego Silang Str.
4200 Batangas City, Philippines.
Ph.: +63-43-723-1155,
Fax: +63-43-723-0340
E-mail: INforSE@phil.gn.apc.org
att. Benjamin Gertes

Asia, Central

INSEDA - Integrated Sustainable Energy and Ecological Development
Association
3rd floor, St Soldier Tower, Vikas Puri, New Delhi 110018, India.
Ph.: +91-11-5510344 or -5526521
Fax: +91-11-5529646,
att. Raymond Myles

Europe

OVE - Danish Organization for Renewable Energy,
Gl. Kirkevej 56 8530 Hjortshøj, Denmark.
Ph:+45-86227000,
fax:+45-86227096
Email: ove@inforse.dk
att. Gunnar Boye Olesen

SZOPK-Foundation for Alternative Energy,
Gorkeho 6, 81101 Bratislava, Slovakia.
Ph/fax.: +42-7-364665/-313968,
Email: bedi@seps.ke.sanet.sk
att. Emil Bedi

Latin America

IED - Instituto de Ecologia e Desenvolvimento,
rua da Assemblera 10, sala 816, Rio de Janeiro,
CEP 20119-900, Brasil.
Ph/fax: +55-21-531-2948,
(Univ.: Ph/fax: +55-21-2709995/-2906626)
Email: emilio@ppe.ufrj.br
att. Emilio & Ana Lucia La Rovere

REDES,

Av. Millan 4113, 12 9000 Montevideo, Uruguay.
Ph.: +598-2-356265,
Fax: +598-2-381640,
Email: redesur@chasque.apc.org
att. Martin Prieto Beaulieu

North America

Environmental Action, Energy Conservation Coalition,
6930 Carroll Ave. #600, Takoma Park, MD, 20912 USA.
Ph.: +1-301-891-1100,
fax+1+301-891 2218
Email: eaf@igc.apc.org
att.: Margaret Hubbard

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