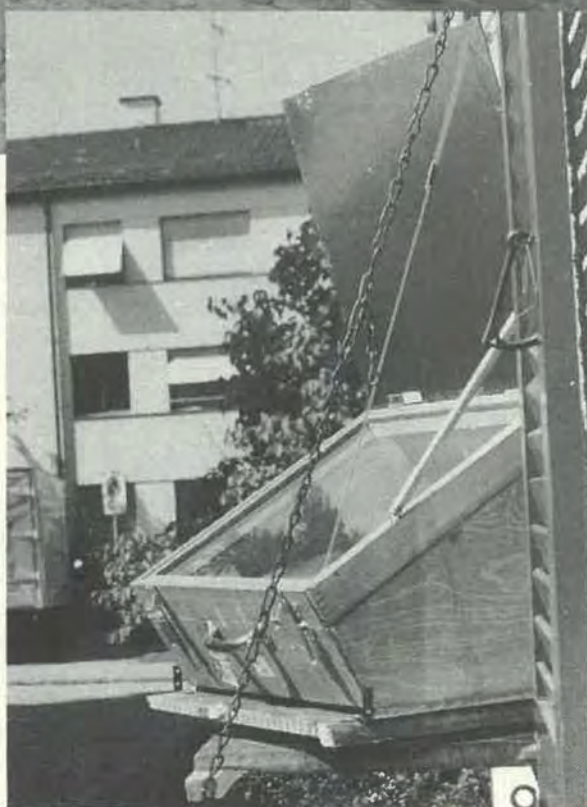


Sustainable Energy News

No. 6 September 1994

ISSN 0908-4134

Newsletter for the
International Network
for Sustainable Energy
- INforSE



Sustainable Energy News

Published by: **INforSE**

P.O. Box 2059

DK-1013 Copenhagen K

International Network for Sustainable Energy is a worldwide NGO network formed at Global Forum in Rio, June 1992.

Regional Contacts:

Stephen Karekezi, FWD, Kenya
Youba Sokona, ENDA, Senegal
Raymond Myles, AFPRO, India
Benjamin Gertes, Philippines
Emil Bedi, FAE - SZOPK, Slovakia
Gunnar Olesen, OVE, Denmark
Martin Prieto, REDES, Uruguay
Emilio Rovere, IED, Brazil
Nancy Hirsh, ECC, USA

Editorial Address:

Sustainable Energy News

OVE, Skovvangsvej 191

DK-8200 Aarhus N

Ph: +45-86106466, fax: -86106188

E-mail: ove@pns.apc.org

Giro: 3283232 (Girobank A/S Denmark)

Editors:

Ann Vikkelso, Gunnar Olesen,
Judit Szoleczky, the Danish Organization for Renewable Energy OVE
Rene Karottki, Forum for Energy and Development

Technical Editor:

Lars Yde,

Folkecenter for Renewable Energy

P.O.Box 208, DK-7760 Hurup Thy

Ph: +45-97956600, Fax: -97956565

Deadline for next issue: 20.11.94

Next issue: December 1994

The newsletter is quarterly. Contributions are welcomed. Feel free to use the information in Sustainable Energy News, but state the source.

Annual subscription rate: DKK 100 (US\$ 15). Sustainable Energy News will be distributed free of charge to NGOs as long as possible.

Sustainable Energy News is sponsored by Forum for Energy and Development.

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The coming international events, from the Social Summit to the European Energy Market, mark an increased international activity, that is covered by a number of articles in this issue. These are followed by descriptions of some new developments in the INforSE campaign on sustainable energy for social development that will link NGO energy activities with the UN summits.

Biofuel for transportation is a rapidly growing way of using renewable energy, and is also the theme of two articles in this issue on experience with alcohol and rapeseed oil for transportation.

Annexed to this issue is the **Sustainable Energy Contact List** (excl. Europe), the first attempt at a worldwide list of energy NGOs.

Front Page:

Building solar cookers in Basel. On one Sunday, 32 solar cookers were built. Solar cookers developed by ULOG are widespread in Switzerland, as well as in many developing countries (see article at the back page). - Demonstration of one of the ULOG cookers in Sudan. - An ULOG solar cooker installed outside the window in a city flat in Basel. Photos: Group ULOG

Editorial:

Sustainability - A vehicle for Social Development

The INforSE-network is now preparing the campaign *Sustainable Energy for Social Development*. The overall aim of the campaign is to convey the message that sustainable development and social development are closely linked. In our work for sustainable development, we must always remember this: The message of the INforSE-campaign is also that sustainable development can be a vehicle for social development.

Unfortunately, many decision-makers and others in the developing as well as the developed world see sustainable development as a luxury that we can't afford - at least, not now, but only in a distant future. This is a basic misunderstanding. Unsustainable development is a luxury that we, meaning the world, can't afford.

The developed world is in many ways suffering from the mistakes of industrialized and unsustainable development. Two of the most serious of these symptoms are the lack of social coherence and of meaning. As a result, growing parts of the populations are not needed by anybody. They can only look forward to being consumers paid for by the social security system.

Local sustainable development can offer these people a new sense of belonging somewhere, since, for local sustainable development, you need the hands and engagement of every-

body. Therefore, at least in developed countries, sustainable development can be a vehicle for social development.

In the developing world, it's important, for many reasons, to avoid development in the unsustainable direction of the now-developed countries, for environmental but also for social reasons. People in the developing countries often have more advanced social structures than those in the so-called developed countries.

By building the growth of the developing countries on sustainable local solutions, using the skills of the people without destroying nature and the local resources, the foundation of a successful, socially well-functioning, and sustainable society can be laid. The old-fashioned and outdated unsustainable solutions smash the local social patterns.

By telling this story and by giving examples of how to promote sustainable development at the World Summit for Social Development, it's the aim of this campaign to promote sustainable and social development, through the daily work done in the INforSE-network, among the local partners connected to the INforSE-network.

*Hans Bjerregaard, Chairman, OVE
INforSE Campaign Coordinator*

Regional News - Africa and Asia

East Africa INforSE Meeting

On March 22, the first meeting of the Eastern African INforSE took place with 10 participants from Botswana, Zambia, Tanzania, Rwanda and Ghana. The meeting was formed as a workshop to discuss common activities.

For the INforSE campaign on Sustainable Energy for Social Development, the workshop recommended that:

- A study of the economic indicators of sustainable energy technologies be undertaken. The study is a preliminary approach that can be used as a basis for further development of the technologies. The study can be used especially in contact with financial institutions who may view renewable energy technologies as not economically viable. The focal point should coordinate

its efforts closely with the international secretariat and draw up a project proposal for this.

- NGOs' national points should begin to expand existing data banks on technologies that have been disseminated as well as on their social and economic impacts.

Regarding the sustainable energy strategy upon which INforSE is based, it was agreed to forward information about the strategy to relevant organizations and especially to policy-makers.

At the meeting, there was a request for revision of the strategy paper in view of the dynamic changes occurring in the economies described therein.

The NGO-representatives present would act as focal points for their respective countries to provide contact addresses to the INforSE coordinator for the directory of Non-Governmental

Organizations dealing with sustainable energy projects.

World Bank Loan for Philippine Geothermic

The prosperous development of geothermal sources that was mentioned in last issue of Sustainable Energy News is now receiving international financing via the World Bank. A \$ 227 million World Bank loan, commercial financing supported by the World Bank, and grants from the Global Environmental Facility are now partly financing the Philippines \$ 1,300 million geothermal development plan. The loan will be used to establish a more reliable power supply for Metro Manila and the surrounding Luzon region.

(Source: World Bank News, June 9, 1994.)

The World Summit on Social Development

The World Summit on Social Development in Copenhagen, March 6-12, 1995, will take centre stage in media attention as heads of state meet to address issues central to human existence.

by Viral Balsari, Forum for Energy and Development

Background

The focal issues of the Summit will be:

- Reducing and alleviating poverty
- Creating jobs
- Building social integration

The principal idea behind the Summit is to place people at the apex of social reform and uplift agendas. Not only has the gulf between the *have* and the *have-nots* in the North and South widened, but a severe imbalance between living standards of peoples within these hemispheres has increased many times as well. Thus, though the extent of needs may vary in different regions, there is an overall need for action to wrest with and to solve problems that bring about a decline in social well-being.

The core issues stated above, should not be considered in isolation from each other; rather, they should be viewed as being intricately interwoven. For example, unemployment

causes increasing poverty and a decline in general living standards. World Employment statistics, released for the Summit on Social Development indicate that in industrialized countries, one out of every ten persons is unemployed, and this figure continues to rise. In developing countries, not only are people unemployed, but underemployment remains an unsolved problem. There are 700 million underemployed people in the world (mostly found in developing countries), and they comprise the 1.1 billion *absolute poor* found worldwide. Rising unemployment and widespread poverty adversely affect societies in terms of increasing crime, migration, lopsided development, and the like, which ultimately is reflected in the general social situation.

Expected Outcome

The aim of the discussion of the United Nations Draft Programme and Draft Action Plan for the Social Summit will

be to endorse strategies and proposals that can achieve objectives pertaining to the three core issues. These objectives will include: The creation of a supportive economic environment, e.g., for resolving external debt problems; enhancement of social integration of disadvantaged and marginalised groups, e.g., protecting diversity, ensuring education to all, etc.; alleviation of poverty through the promotion of sustainable development in fragile ecosystems, and alleviation as well as reduction of rural poverty.

The signing of the final Declaration and final Programme of Action by heads of state will serve to bring the need for social development to the forefront of national planning initiatives. The UN view is that social development is primarily within the purview of national governments and societies. On the other hand, the international community, especially the UN, plays a supportive role with regard to social development and social progress in the world. Thus, the UN has identified areas of international cooperation that aim at assisting governments to implement social development programs in their respective countries. These 5 types of international cooperation, directed at helping in the implementation of strategies at national levels are:

- raising awareness,
- exchanging information and experience
- establishing a policy dialogue in areas of international concern,
- developing norms, standards, conventions and other international instruments, and
- identifying areas of cooperation and direct support to developing countries.

The INforSE Perspective

With regard to the above, INforSE supports sustainable energy technologies with the purpose of attaining social development. Energy needs are focal

An NGO view:

It is hard to disagree fundamentally with the texts in the draft declaration and the action plan for the Social Summit, but there is, to put it mildly, not much new in the papers. There are several references to previous UN documents, and the countries agree to fulfil what they agreed upon in 1964, 1978, 1981, 1990, ...

What is new in the declaration is that the social and the moral crises of the world are given equal emphasis. A better economy and more aid for development are not enough. The concept of solidarity is revitalized. Besides the nice words, there is a chapter about implementation of the action plan, but it has presently only reached the status of a preliminary draft, a structure for further discussion, so there is still a long way to go.

We shall not expect proposals for real changes towards a more social development from the Summit Secretariat, from diplomats, or from heads of state. The initiative must come from the civil society, organized in popular movements. It is from the NGOs that new ideas and a push for change can come.

from NGO Forum '95 Nyhedsbrev, Denmark

- and the INforSE Campaign

to development requirements of citizens, irrespective of the level of development of a country. With the advent of environmental concerns highlighted by the UNCED '92, there is a growing realization of the need for sustainable energy solutions. Thus, the use of sustainable energy not only satisfies environmental concerns, but larger social development is brought about. For example, in developing countries, rural women are usually primary end users of energy, and considerable time and effort is lost in the collection of firewood and cooking. At the same time, these women are exposed to risks of contracting disease, because current energy use is both environmentally and socially detrimental. In such cases, improved cookstoves, for instance, would go a long way towards alleviating the plight of rural women, at least in some spheres of social life. Improved cookstoves, such as the Kenya Ceramic Jiko (KCI) and the Afghan Solar Cooker, have brought vast improvements in the plight of the populace to which they have been distributed. Success stories in the field of sustainable energy cause INforSE to strive for further dissemination of these technologies on a wide-spread basis.

With a view to promoting sustainable energy technologies and bringing about social development, INforSE has undertaken a number of campaign activities that will not only help to bring larger attention to pressing social problems but will also assist in drawing up practical proposals to tackle them.

References:

1. World Summit for Social Development, Copenhagen, Denmark, March 1995; World Employment Fact Sheet 1, United Nations Department of Public Information - July 1994.
2. United Nations General Assembly Document, Preparatory Committee for The World Summit on Social Development - First Session - February 1994.
3. United Nations; Outcome Of The World Summit For Social Development: Draft Declaration And Draft Programme Of Action - June 1994

INforSE Campaign Paper

This campaign paper will be based on inputs from the coordinators in the different regions. The main and most important component of these inputs are cases and proposals from these regions. These cases are sustainable energy success stories, i.e. examples of sustainable solutions creating jobs and livelihood opportunities. They will be presented in a journalistic fashion. The main objective of this campaign paper is that, media and public attention be brought to bear on the real and distinct possibility of sustainable energy solutions. Such solutions are not only favorable in an energy/environment context, but also in terms of fostering social development. In addition, the campaign will be endorsed by prominent members of society. Such endorsement will serve to make the campaign paper more comprehensive in its scope. The campaign paper is in draft form. It will be finalized at the below-mentioned workshop.

International Workshop on Sustainable Energy for Social Development

The workshop will be held in Denmark from November 27 to November 30, 1994. The aim is to debate ideas that would ultimately help forge action oriented solutions to attain social development objectives. These obviously would be in tune with the broader issues that the World Summit wishes to address. Thus, certain themes are being identified by the INforSE, which will be the basis of discussion at the Workshop, and later of specific proposals. These themes are largely focused on stimulating decentralized renewable energy solutions and can currently be identified as follows:

- Underemployment in the developing region and unemployment in the industrialized region are major social problems that should be addressed.
- Urban migration is a major cause of social imbalances.
- Escape from the *Debt trap* - sustainable energy solutions can be used to solve external debt problems and to promote social development.
- Social uplift of women is aided by sustainable energy.
- Sustainable energy cooperatives can be used to reduce poverty and to foster social integration.

The themes stated above clearly attempt to create linkages between the concepts of sustainable energy and social development, keeping in mind the objectives of the Summit on Social Development. Thus, the INforSE views sustainable energy and social development to be two sides of the same coin. Without sustainable energy development, the potential for fully realizing social development objectives cannot be fulfilled.

NGO Forum '95

During the Social Summit, INforSE will participate actively in the parallel NGO Forum '95 in Copenhagen with an exhibition as well as a series of presentations and discussions of the linkage of sustainable energy and social development. General information about NGO Forum '95 can be obtained from: NGO Forum '95, Njalsgade 13C, DK-2300 Copenhagen S. Ph: +45 3296 1995, fax: +45 3296 8919, e-mail: ngo95@inet.uni-c.dk.

Climate Summit

Before the Climate Summit in Berlin, March 1995, INforSE will present the campaign in cooperation with Climate Action Network. Besides these worldwide activities, there are several regional and local activities related to the INforSE campaign.

Regional News - Europe

European INforSE Meeting

The third European INforSE meeting took place in Deister, Germany July 9 with participants representing 12 organizations from 10 countries.

After the election of the chairman and the rapporteur, the first point on the agenda was the adoption of bylaws for INforSE-Europe. After a long discussion and a number of smaller amendments, the proposed bylaws were adopted by unanimous decision. The adoption of the bylaws was a major step for the formalization of INforSE - Europe. The bylaws affirm the principle that all core members can act on behalf of INforSE - Europe after notifying the European coordinators of the proposed activity, if the coordinators do not object to the proposed activity.

The coming activities of INforSE - Europe were discussed in the framework of the action plan for 1994-95. Major activities will be the INforSE Campaign, continued lobbying activities, support of member activities, and continued fund-raising. It was also decided that INforSE - Europe will support the Walk Across Europe for A Nuclear-Free World 1995 and its information activities on sustainable energy. It was decided to continue with only 2 working groups:

- the Seminar 1995 Working Group, consisting of Georg Löser (BUND, Germany) and Gunnar Olesen (OVE, Denmark).
- the Campaign Working Group consisting of Emil Bedi (FAE, Slovakia) and Gunnar Olesen.

More working groups can be formed during the year, if necessary.

Emil Bedi and Gunnar Olesen were re-elected as coordinators. The next INforSE - Europe meeting will take place during the 1995 European Sustainable Energy Seminar in July 1995.

INforSE Campaign

In Europe, the INforSE campaign is now carried out under the title *Sustainable Energy, Employment, and Social Development*. The background paper for the campaign was discussed at the seminar in Deister, July 1994, and an amended version is now ready and available from the INforSE coordinators. The paper is supplemented with a proposal on micro-hydro for Central and Eastern Europe, and will be supplemented later with other specific proposals.

A number of campaign presentations and roundtables are scheduled for the rest of 1994 and 1995. The first presentation was at Europe's largest consumer fair for environmental products, Öko '94 in Freiburg, Germany. During the fall of 1994, the following activities are planned:

- A one-day roundtable between energy and environmental NGOs and trade-unions in Bratislava, Slovakia in the end of October. The roundtable will be used to present and discuss proposals for sustainable energy and job creation. There will be proposals for different technologies: biomass, cogeneration, micro hydropower, etc., and there

will be proposals for a CO₂/energy tax for Central and Eastern European countries. Contact Emil Bedi (ph/fax: +42-7-364665).

- A one-day seminar in Bonn, during the last half of November in cooperation with BUND. In the seminar there will be presentations of new German studies of energy, environment, and employment. Contact BUND or INforSE - Europe (ph/fax +45 8610 6466/6188);
- launching a mobile exhibition on sustainable energy for Central and Eastern Europe.

An important part of the European campaign is participating in the international INforSE campaign. Besides the international events, there are several national events focussing on the campaign theme in Germany, Spain, Denmark and other countries.

European Sustainable Energy Seminar '94

For the 5th time, Western and Eastern European NGOs met for a week in July to share ideas and knowledge, get better informed and build up contacts to cooperate towards sustainable energy solutions in their respective countries. As in previous years, the INforSE - Europe annual meeting was held on the day following the seminar. The main organisers were the Energie- und Umweltzentrum and OVE/INforSE.

The seminar was held in a unique place, Energie- und Umweltzentrum (the Energy and Environment Center), 30 km from Hannover, Germany. The center itself is a demonstration of different low-energy and environmentally friendly solutions. The lecture rooms and the living rooms of the participants are in the new low-energy guest building. The center is well equipped with several demonstration objects and projects like different insulation patterns, PV panels, rain water recycling systems, etc. The newest projects are a Zero-Energy House and two wind turbines which were built in cooperation with the Center.

The lectures, workshops, and discussions covered different aspects, including practical, theoretical, and political issues. The topics of the work-



The participants at the European Sustainable Energy Seminar '94 visited a zero energy center near Hannover.



Visit at the Solar Energy Research Institute that is situated South of Hannover.

shops were: Solar Energy, Low Energy Housing, Energy Saving Techniques, Sustainable Energy and Employment, Cooperation on a European Level. Presentations included the issue of the Climate Change Program of Hannover, energy taxations, and the European Union Energy Programs. During the excursion, the participants visited the *Solar Energy Research Institute* and an ecological renovated block of city houses for 400 people. The planning of the renovation was done in cooperation with the people living there. Among other energy-saving measures that were taken, the walls were insulated, windows were changed, and a cogeneration plant was installed.

Sustainable Energy Seminar 1995

The preliminary date and venue of next year's European Sustainable Energy Seminar are July 3-8 in Slovakia near Bratislava. The vision is to hold a seminar that will unite the European NGOs working for sustainable energy, and to do it as a joint activity of INforSE - Europe, Greenway Energy Group, Climate Network Europe, and WISE, World Information Service on Energy. During the seminar there will be a visit to some practical examples of sustainable energy usage: of solar energy and biomass in Austria and of geothermal energy in Slovakia. The European INforSE meeting 1995 will take place during the seminar, probably on July 8.

The Gardony Declaration

At the Greenway Energy Group Conference in Gardony, Hungary, May 25-29, NGO representatives from 18 Central and Eastern European countries formulated an energy policy agenda, The Gardony Declaration. The main

proposals of the agenda are:

- make integrated resource planning (IRP) the standard approach for energy investment decisions;
- implement demand-side management (DSM) programs in all energy sectors;
- introduce clear and independent regulation of utilities, when they are due to be privatized;
- coordinate programs to support renewable energy projects;
- make a moratorium on all part-built nuclear plants, and implement immediate phase-out plan for nuclear reactors;
- setting tough targets for pollution reductions in order to respect the ecological limits of the planet;
- promote public participation and free access to data on the energy systems.

EU Energy Market and Greenbook on Energy

The new proposals from the European Union Commission for common electricity and gas markets were discussed among the EU energy ministers in June, but no final agreement was reached. The German Presidency of the EU has announced that it will propose a new compromise this fall. Such a compromise will probably concentrate on the electricity market, and limit new EU-regulations. Hopefully it will also address the environmental parts of the electricity sectors' duties as *public service* companies. This important reference to environment was missing in the proposal from the EU-Commission. It remains to be seen whether any agreement on a German compromise can be reached. It is quite possible that the discussions on internal energy markets will just continue as they have done since the first proposal from the Commission in 1992.

In June, the EU Energy Ministers also started a new discussion process, leading to a Greenbook on Energy. The Greenbook, in itself a discussion paper, is now under preparation by the EU-Commission. The General Directorate on Energy has started the process by consulting the energy industry. The energy Commissioner, Marcelino Oreja, will give the first presentation of the issue at the EU Energy Minister meeting, November 30. The Greenbook itself shall only identify the elements of

the debate leading up to a new EU energy policy. Two issues for the agenda will without doubt be a follow up of the EU energy goals for 1995 (that were not reached regarding energy efficiency), and the question of including an energy article in the EU-Treaty, when this Treaty is revised at the EU prime ministers' conference in 1996. *Mainly based on EC Energy Monthly, August 15, 1994 and information from the Danish Ministry of Energy.*

More Renewables in the EU?

"In the year 2010 renewable energy sources can, and with the collaborative efforts between all actors should, substitute the equivalent of 15% of conventional primary energy demand in the European Union". This was one of the expert conclusions from *The Madrid Conference* that was organised by the European Commission, DG XVII (Directorate General for Energy).

With the current EU policies, renewable energy will only contribute 6.5% by 2010 according to *The European Renewable Energy Study*, which was published also by EC DG XVII. This is despite the fact that the EU has the technical potential for renewables to supply as much as 47% (1990).

Sources: Renewable Energy Journal, EC DG XVII & Renew 89, NATTA.

New Czech Energy Fund

Work on establishing a Revolving Fund for financing energy efficiency projects is taking place in the Czech Republic. The Fund is planned to be initiated early in 1995. A survey of the Czech economy has been made, including assessment of the potential for energy efficiency projects eligible for Fund money and investigation of the banking sector to gauge institutional interest in managing and administering the Fund. A seminar on September 6, 1994 presented the Revolving Fund.

(Source: NEWS at SEVEN, Sept. 1994)

European Solar Prize 1994

The European Solar Prize will be awarded for the first time on October 3 in Vienna. The prize is awarded in 7 different categories to organizations, individuals, municipalities, industry, etc. who have made special efforts in promoting solar energy.

Organizing INforSE in Latin America

by Ana Lucia N. La Rovere, IED

A small group of eight people met in Rio de Janeiro on July 1 to foster the development of the Latin American Network for Sustainable Energy. As ELAN/FLEA - the Latin American Anti-Nuclear Meeting/Latin American Fair of Alternative Energy Equipment to be held in Brasilia has been postponed to April/May 1995, a large Regional INforSE meeting will take place only next year, coupled to this event which will gather most of the community involved with sustainable energy activities at the continent.

Aims

The July meeting organized by IED (Institute of Ecology and Development) and hosted by the Science and Culture Forum of UFRJ (Federal University of Rio de Janeiro), was selected to prepare the launching in the region of the INforSE Campaign on Sustainable Energy and Social Development. In order to discuss the Latin American inputs to the campaign, a small group was formed to try to bring together representatives of different kinds of NGOs that are active in the environment and renewable energy field and that come from different geographical areas.

INforSE Latin America

Emilio La Rovere, professor at UFRJ (COPPE, Energy and Environment Program), and Ana Lucia La Rovere represented IED, a small NGO located in Rio de Janeiro that undertakes sustainable energy development projects in rural communities, besides playing a political role in the coordination of the Brazilian and the International Forum of NGOs and Social Movements.

Until the Regional INforSE Meeting, IED has been acting as INforSE coordinator in Latin America, together with REDES, which was represented by Cesar Marchesino. Located in Montevideo, REDES is promoting the dissemination of renewable energy in Uruguay, through the installation of equipment to demonstrate the use of solar energy in an ecological village.

Luiz A. Horta Nogueira, professor at the Agroenergy Group from EFEI coordinates the Brazilian Dendroenergy Network and also represented GENERCO, a small engineering company working in the design and construction of small hydropower plants in Brazil.

L Macedo was sent by COOVIVA, a NGO from Brasilia developing projects of organic agriculture and education that is now initiating energy activities. COOVIVA is in charge of organizing the next ELAN/FLEA

Jan Jensen represented ABEAMA - the Brazilian Association for Alternative Energy and the Environment, which gathers manufacturers of renewable energy equipment. It is located in Rio de Janeiro, where the installation of a demonstration centre is planned.

Greenpeace has regional offices in Mexico, Guatemala, Buenos Aires, Santiago (Chile), Rio de Janeiro and Sao Paulo. Roberto Kishinami attended the meeting. His action focuses on the follow-up of the Framework Convention on Climate Change. Greenpeace is also studying the potential for complementary hydropower development in the southern countries of the continent and for a wind energy project in Patagonia.

Also present was Renato P. da Cunha, from GAMBA - Environmental Group of Bahia, located in Salvador. GAMBA is a NGO representative of the Northeastern region in the Brazilian NGO forum and in CONAMA - the National Environmental Council. It took part in the elaboration of a NGO book on energy in Brazil.

On the Agenda

The meeting started with a general presentation of INforSE activities; the conception of the strategy, constitution of the network during UNCED '92, present status, events, launching of the campaign, preparation of the Social Summit. Then the discussion focused on the four points of the agenda:

- The specifics of a Sustainable Energy Development Strategy in the case of Latin America
- Campaign inputs: case studies and the Latin American perspective

- Specific proposals for future campaign actions on the continent

Organizational Aspects of the Latin American Network

The results of the discussions were channelled to the process of elaboration of the campaign document. Their synthesis report is available upon request from IED. For the development of INforSE in Latin America, 8 proposals were adopted as the next steps towards the organization of the network:

- Opening a Latin American e-mail conference.
- Quantifying the minimal needs of financial resources, essentially for staff and communications, as general infrastructure and equipment are already available.
- Keeping IED and REDES as Latin American coordinators trying to decentralize tasks through the constitution of sub-networks in different regions: REDES, Spanish-speaking countries (contacts in Mexico, Costa Rica, etc.); IED, within Brazil (contacts: COOVIVA - Centre/North, GAMBA - Northeast, GENERCO - South/Southeast).
- Holding a larger Latin American INforSE regional meeting coupled with ELAN/FLEA in 1995. Immediate start of the organization of this event jointly with the organizers of ELAN/FLEA.
- Elaboration of a sustainable energy contact list with target institutions of the Latin American Network; NGOs already active in the energy or environment field, anti-nuclear movements, cooperatives, etc.
- Sending documentation to selected institutions, inviting them to join the network and asking for information about their activities.
- Preparation of specific materials for the Latin American campaign and translation of international materials into Portuguese and Spanish.
- Participation in the INforSE coordinators' meeting through IED and REDES representatives.

For further information, please contact: Ana Lucia Nadalutti La Rovere, IED, Av. Erasmo Braga 277 sala 305, Rio de Janeiro - CEP 20020 - Brasil. Ph/fax: +55-21-240 0661

Regional News - North America

SunDay

The SunDay events took place all over the United States on April 24. About 370 state and local organisations joined the event as sponsors or local organisers. The events included several one-day educational activities such as fairs, conferences, workshops for builders of passive solar design, and exhibits displaying environmentally sound energy technologies. It also featured a *Letter-Writing* campaign to urge members of Congress to support

renewable energy, and a *Bike-to-Work* day on 22 April. The *Energy Fast* campaign urged people to reduce or eliminate energy use on SunDay, 24 April. Many organisations focused on media campaigns through the daily newspapers and a series of television documentary entitled *Rise of the Solar Age*. In addition, several events encouraged efforts with a longer term impact, such as initiating energy policy reviews by corporate and government decision makers and introducing energy materials into school curricula.

Energy Efficiency Award

IIEC, will host a gala dinner in Washington, DC on September 27, 1994. IIEC will present the 1st annual Corporate Achievement Award for Global Energy Efficiency and its 5th Achievement Award for Promoting Global Energy Efficiency. These awards recognize efforts to offer sustainable energy technologies and services in the private sector. The event will be followed by a forum on sustainable energy. (Source: *NEWS at SEVEN*, Sept. 1994)

Short World News

NGO Office for the Climate Summit '95

The German NGOs have established a joint office to coordinate the preparations and activities for the first Conference of the Parties (COP1) on the Climate Convention in Berlin in March 1995. The office will be a center for all local and national NGOs involved in Germany in close cooperation with Climate Action Europe. NGOs from all over the world count on the German organizations to play an important political role before and at the summit as well as to provide adequate infrastructure for them. The Office: Behrenstr. 23, D-10117 Berlin, ph: +49-30-202 2030.

NGO Pressure on German Government

The German NGOs know that massive changes are necessary in the international energy policy. They continue to press the German government to take the lead and to present a legally binding CO₂-Protocol for the Climate Summit. They stress that this protocol must incorporate the Toronto target, a reduction of CO₂ emissions in industrialised countries by at least 20 percent by 2005, with 1990 emission levels as the relative basis for the reduction. They also demand that it incorporates measures to reach the target, like energy taxes and the general establishment of least-cost planning. Previously, countries like Germany, Denmark, Australia and Canada declared

that they would aim to reduce CO₂ emissions in their own countries by 25 percent from 1987 levels by 2005.

Climate Negotiations Standstill

During the last negotiations on the Climate Convention, INC 10 in Geneva, August 29 - September 9, the German government proposed some draft elements to a protocol with additional targets and measures for greenhouse gas reductions. Nevertheless, the following negotiations did not lead to any proposal for a protocol to strengthen the weak commitments that are included in the Climate Convention. The majority of the countries were in favor of using the Climate Summit in Berlin, March 1995 just as the start of negotiations on a protocol to be agreed upon in 1997. This is quite a slow response to the widespread agreement at INC9, that the present commitments are insufficient.

Energy Charter Treaty to be Signed in November?

The ongoing negotiations on the binding Energy Charter Treaty, which will guide free trade and investments in energy in OECD and Central and Eastern European countries, took a large step ahead in June, when negotiators finally agreed to a number of compromises. The last outstanding question was the article about national sovereignty over own resources. Others were compromises about ac-

ceptance of a special status for EU and similar regional economic organizations, and about opening of the uranium market in EU for Russia. The paragraphs about environmental concerns have not been changed since 1993, where it was agreed to refer to international environmental treaties, but in a rather weak wording.

After the compromise in June, legal questions have delayed the publishing of a final text. The major concern from the free-market promoters is that the article about national sovereignty can override articles about equal treatment of national and international companies. Other issues still debated are a US proposal of reducing the role of regional economic organizations, a US reluctance to enforce the Protocol in its individual states, and a Russian proposal to allow the countries to halt capital transfers out of the country in times of currency crisis.

In spite of the outstanding questions, the Charter Secretariat in Bruxelles is planning a larger meeting for signing the Treaty in November. A number of countries are proposing that this event also be used for signing an Energy Efficiency Protocol. Such a protocol can help to reduce the bias towards exploration and supply options that the Energy Charter Process has currently. The negotiators are very close to an agreement on a not very strong Energy Efficiency Protocol.

(Based on *EC Energy Monthly*, August 15, 1994 and information from the Danish Ministry of Energy.)

Biofuel for Transportation: Adapt the Motors to the Fuel



by Preben Maegaard, Folkecenter
for Renewable Energy, Denmark

The first initiatives for more ecologically friendly cars are not coming from the well established car manufacturers. These companies, in spite of their enormous research and development capacity, are just in the process of starting to develop prospective solutions to replace a vehicle technology that, in reality, has not changed during the last 60-70 years.

An example of a new solution from a smaller company is the Elsbett engine. It was developed by a talented German engineer, Ludwig Elsbett, who established *Elsbett-Konstruktion* in 1964 - an institute for development of engines - situated in Hilpoltstein near Nürnberg, Germany.

The Elsbett engine runs on pure vegetable oil. This is not possible for a normal diesel engine, because the glycerol from the oil will deposit half-burned hydrocarbons in the cylinders

of the engine. It is possible to remove the glycerol from the oil by a chemical methyl ester treatment. The treated oil, which can be used in normal diesel engines, is known as biodiesel or RME (Rapeseed Oil Methyl ester). Unlike vegetable oils used in cooking, RME is poisonous and contains carcinogens.

Elsbett has developed motors for many different purposes. Presently a few hundred cars are running with Elsbett engines in Bavaria. They are running on pure rapeseed oil that is pro-

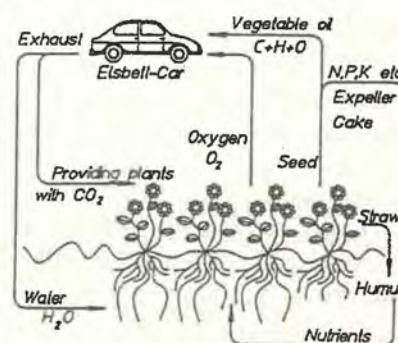
Environmental Impacts

Unlike diesel oil and RME, the Elsbett engine fuel is not poisonous. This type of oil can be used to fuel the car and for cooking. It can be stored for long periods, and there is no special safety regulation needed for storage and transportation.

Spillage of plant oil has very little environmental effect. This is one of the reasons behind the demands from German and Austrian authorities to use Elsbett engines for pumps in wetlands near the Bodensee and for cogeneration systems for hotels in the Alps. This is also why a number of German farmers are having their tractors rebuilt with Elsbett engines.

It is argued against the use of rapeseed oil that increased use of this oil will result in increased emissions of N_2O (laughing-gas) from the fields; N_2O is a greenhouse gas with an expected effect much larger than that of CO_2 . This argument is based on an analysis of the *worst case*, when the rape is grown with artificial fertilizer and the resulting oil is processed into RME and used in a low-efficiency diesel engine. With artificial fertilizer, the soil gets extra nitrogen. Furthermore, the fertilizer is produced using fossil energy. In this case, there will be a net input of nitrogen and increased production of laughing-gas. If the land is farmed organically, it remains in balance. This is true for fields with organically grown food, and will also be true for organically grown biofuels.

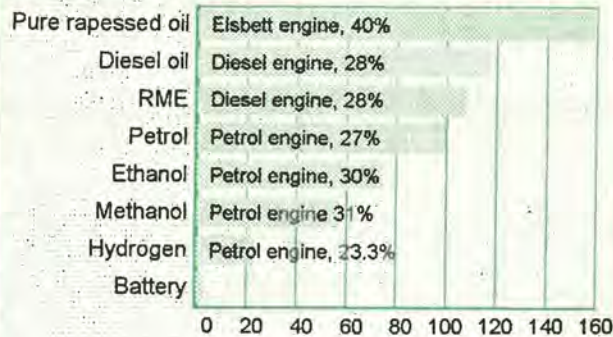
The emission of NO_x is 10% higher per unit of emission for an Elsbett engine compared to that of a normal diesel engine; but because the efficiency is higher, the total emission for a given energy production is lower. Consequently, the Elsbett engine turns out to be better also as regards NO_x emissions.



*Closed natural cycles
of Carbon, Hydrogen, Oxygen and Nutrients*

duced at the farms and delivered to special filling stations, where it is sold for about 0.80 DM/liter. The engine for cars has 3 cylinders with a total volume of 1,500 cm² and is equipped with a turbo-charger. At the institute in Hilpoltstein, cars are rebuilt by changing the original engine to an Elsbett engine. In addition to the car engines, Elsbett makes small plant-oil-fuelled cogeneration systems for heat and electricity.

Comparing action radius for a vehicle with a given volume of fuel; but with different fuel and engine types. The petrol engine is used as basis = 100%.



The Elsbett engine runs on pure vegetable oil. The oil can be used to the fuel the car or for cooking.



Large Perspectives

The Elsbett engine has far-reaching possibilities, especially in the tropical developing countries, where this technology will be very valuable because it uses natural plant oils. All over the tropics there are plants with high oil contents from which the oil can be derived locally. The ordinary oil-palm can give 7,000 kg oil/hectare in a year, and many other plants have yields above 2,000 kg oil/hectare.

In Denmark and other Western European countries, agricultural lands are taken out of production because of over-production. In Denmark alone, 200,000 hectares of agricultural land are not in use. On this land, rape can be grown organically with a yearly production of about 1,000 kg rapeseed oil. Thus, this area can supply organically

grown fuel to 400,000 cars, each running 10,000 km/year.

It is part of the Folkecenter's 1994 Program of Action to work more on biofuels, including plant-oil engines for transport and cogeneration of heat and power. At the Folkecenter, we have replaced an ordinary car with a VW Passat with Elsbett engine to introduce and demonstrate this technology in Denmark. Following this, we are planning to start a permanent collaboration with the Elsbett Institute.

Based on articles by Preben Maegaard in Bioenergi 15, June 1994, Denmark and Vedvarende Energi og Miljø 3/94, Denmark. Shortened and translated by Gunnar Olesen.

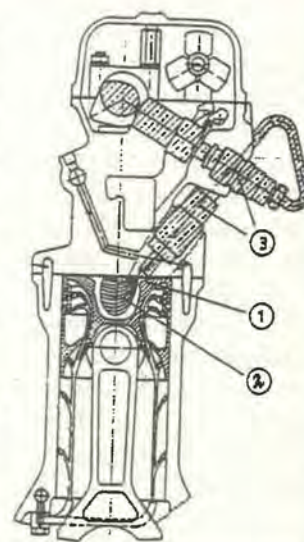
The Technology

To burn the glycerol that is in the plant oil, without the formation of deposits in the engine cylinders, the Elsbett engine has a special injection system combined with a spherical combustion chamber placed in the piston. This construction gives combustion with a high-temperature core surrounded by a layer of colder excess air. In this way, there are low heat losses to the walls of the cylinder and the glycerol is burned without leaving deposits on the walls.

The piston is made of two parts. The upper part, which includes the combustion chamber, has a small surface facing the cylinder walls, and therefore has reduced heat transfer to them. This part, which also holds the piston rings, is made of cast iron, which can stand the high temperatures. The lower part of the piston is made of aluminum, and the total piston has a lower weight than a normal piston made in one piece.

An ordinary car engine has an efficiency below 30%, while that of the Elsbett engine is about 40%. The high temperatures make the engine capable of working with many types of fuel, like rapeseed oil, fish oil, and used cooking oil as well as ordinary diesel oil. The high efficiency gives a 30% better mileage.

In a petrol engine, 28% of the combustion heat is removed by the coolant. In a diesel engine, this figure is about 30%. In an Elsbett engine only 14-16% of the combustion heat is removed from the cylinder. This is done by oil cooling, which is simpler and more reliable than water cooling. The rest of the excess combustion heat, about 40%, remains in the exhaust gas. The engine can be characterized as exhaust-gas cooled, which makes it especially suitable for cogeneration, because it can deliver more heat at high temperatures (4-500°C).



The Brazilian Ethanol Programme

General Evaluation and Prospects

by *Emillio Lebre La Rovere*,
COPPE/UFRJ and IED

Since the introduction of sugar cane plantations by the European colonies in the 16th century, Brazil has always been an important producer and exporter of sugar. The Brazilian government's major answer to the problems of the fluctuating trend of international sugar prices and the increasing burden of the petroleum bill after 1973 has been to install the Ethanol Programme.

Presently, it remains the largest commercial application of biomass for energy production and use in the world. After launching the Programme in 1975, the ethanol production from sugar cane increased from 0.6 Gt (billion liters) to the 1991/92 season level of 12 Gt per year. Apart from this, 8.6 Mt of sugar and 73 Mt of bagasse from 229 Mt of sugar cane are produced in the same season harvested on approximately 4 Mha.

Gasoline - Gasohol - Ethanol

The task for the first five years was to replace petrol by gasohol (20% ethanol). This was completed easily without engine modification in light gasoline vehicles. On the production side, idle production capacities and the flexibilities of existing distilleries were used to shift from the production of sugar to that of ethanol.

After the second oil crisis, a decisive new step was taken to extend the use of ethanol to light vehicles using pure ethanol. The Brazilian automotive industry (mainly branch offices of major European and American car makers) agreed to the minor technical changes required in the manufacturing of such cars. The investment effort required for this phase of the Ethanol Programme was funded through soft loans by the government. Tax reductions made ethanol and the ethanol-powered car prices highly attractive to the consumers. Today, 4.2 millions of ethanol-powered cars consume 10.5 Gt of ethanol per year and 1.3 Gt of

ethanol is used for the rest of the cars in the country.

Ethanol in Crisis

The sharp decrease of oil prices in the international market in the mid-eighties seriously affected the cost-effectiveness of the Ethanol Programme. The government stopped funding the building of new distilleries and therefore limited the production capacity. The incentives for the consumption of ethanol, however, carried on.

Ethanol consumption growth slowed down but did not stop. From more than +27% per year between 1981 and 1986, the growth rate went down to 1.3% per year between 1986 and 1992. As a result in 1989 and 1990 a supply crisis took place and affected the credibility of the Ethanol Programme considerably. The share of new ethanol-powered cars in the total amount of cars sold on the market shrank from almost 100% in 1988 to around 4% during the crisis, to stabilize at a number oscillating between 10% and 20%.

This new equilibrium has been reached at the cost of a net increase of ethanol rate in petrol. Today it has gone down by an average of 12%, showing large seasonal and regional fluctuations. Therefore, the very existence of the Ethanol Programme is in question. The Program needs a rationalization of its working principles. Petrobras (the Brazilian state-owned company responsible for petroleum production and marketing) envisages abandoning its role in the transport and distribution of alcohol to lessen its financial losses caused by storing and marketing ethanol.

Environmental protection has become the most important cause governing the need to continue with the Ethanol Programme; the city of Sao Paulo has obtained the licence to retain a production of 22% of ethanol in its Gasohol in order to limit the acute problem of air pollution in the city. The other regional capitals of Brazil have

applied for the same. Yet this strategy is competing with new oil-based gasoline blends with higher oxygen content which are being successfully launched in the market by all the market by all major oil companies (including Petrobras).

Environment

The future of the Ethanol Programme is not only linked to its economical and social impacts but also to its ecological ones. This programme successfully demonstrated the technical feasibility of large-scale ethanol production from sugar cane and of its use to fuel car engines. Further, the purely alcohol-powered car engine, a major technical innovation of the programme, shows emission rates slightly lower than that of the petrol-powered car engines and equivalent roadability, comfort and durability.

Important productivity gains in sugar cane production and processing have also taken place (1977: 2600 l of ethanol per ha; 1987: 3900 l/ha; 1991: 5400 l/ha). A continued decrease of the production cost of alcohol of more than 3% per year has taken place since the beginning of the Ethanol Programme. Moreover, the carbon released into the atmosphere when bagasse and ethanol are consumed for fuel is compensated by an equivalent quantity of carbon absorbed by sugar cane during its growth. The avoided emission of 9.45 MtC for the year 1990-91 corresponds to almost 13% of the total emissions of carbon due to energy consumption in Brazil in 1990. Accounting only for the substitution of gasoline, the use of ethanol has avoided the release in the atmosphere of an average of 5.86 MtC/year from 1980 till 1990.

Economy

The Brazilian case well illustrates the large CO₂ emission abatement potential at reasonable costs if investments in ethanol production could benefit

Small Hydropower in Germany

by Manfred Röttjes

The Federal State of Saxony, situated in the south east of Germany and bordering the Czech Republic and Poland, was once a centre of small hydropower. More than 3000 plants were registered before 1939, producing a large proportion of the electricity in the area. More than 20 companies were producing hydraulic and electric equipment. During the socialist period, the production of electricity was mainly concentrated in a few large lignite-fired plants. A number of pumped-storage schemes were also operated. The use of small hydroelectric plants by private individuals was systematically discouraged for decades.

When the DDR ceased to exist formally on October 3, 1990, a number of small, mainly defunct plants were returned to their previous owners. As they had been unable to collect private capital, they found themselves confronted with a serious lack of funds. Commercial banks refused to give them credit as they could not offer sufficient security.

The GLS-Bank (Gemeinschaftsbank) in Bochum had successfully launched two wind energy funds. Through these funds, numerous ecologically minded individuals lent money to specific renewable energy



Inauguration of the "Ostrauer Mühle", Kirnitzsch river, by the deputy minister of environment of the Federal State of Saxony.

projects. They were not interested in the maximum possible interest rate, but they preferred to lend their money to investment projects which complied with their ecological and ethical ideals. To handle the newly established hydropower fund of the GLS-Bank, the *Wasserkraft Sachsen GmbH* (Hydropower Saxony Ltd.) was founded as a non-profit organization.

The *Wasserkraft Sachsen GmbH* (WSG) comprises ten owners of defunct hydropower plants from various regions of Saxony. The purpose of the association is to assist its members in the reconstruction of their plants by:

- consulting members in technical and financial matters
- channelling the funds to the members and organizing the financial transactions
- arranging mutual assistance among the members

The WSG has also enhanced economic cooperation in the region. Hydraulic

and electric equipment are bought from the neighbouring Czech Republic and Poland at very competitive prices. Members of WSG have worked out proposals to modify the hydraulic structures to comply with today's ecological demands.

The activities of the WSG and its members have been highly efficient and have found wide coverage in the media. At the end of the founding year 1992, not more than two members had their plants operating at a capacity of 300 kW. At the end of 1993, three additional plants were running, amounting to another 300 kW. With the commissioning of five more plants by the end of 1994, generating capacity will rise to around 1000 kW, and many more projects are in the planning stages.

The author is a mechanical engineer. Member of Wasserkraft Sachsen GmbH. Further information from Pirnaer Str. 15, D-01819 Langenhennersdorf.

from international funding. The transfer of an adequate amount of financial resources from industrialised countries in appropriate soft terms is required in order to make feasible a positive contribution to curb the increase of the greenhouse effect.

Support for the Ethanol Programme from agencies such as the World Bank has been rather insufficient in the past. Besides the reshaping of their actions, new mechanisms to fund *small regret* sustainable energy development strategies are sorely needed. The implementation of the

United Nations Convention on Global Climate Change has a crucial role to play in this. A first step would be the allocation of a considerably larger amount of financial resources to the Global Environment Facility (GEF) and its use to support the viability of these strategies, in Brazil as in other developing countries.

Brazilian government efforts also should be directed to promoting the production and use of ethanol and bagasse through the adoption of appropriate energy pricing policies, mechanisms for information dissemination,

adequate institutional building, providing soft funding facilities and measures to foster research and development efforts in this area. In this connection, it should be recognized that complete deregulation and privatization of energy sectors hardly will allow for removing non-economic barriers to sustainable energy development strategies.

For further details see *Environmental Benefits of the Brazilian Ethanol Programme* by E.L. La Rovere and P. Audinet in the Proceedings of the First Biomass Conference of the Americas, vol. II, p. 1533-1546, National Renewable Energy Laboratory, Burlington, September 1993.

Publications

Directory of National Commissions on Sustainable Development

Contact: L.S. Dooley, WRI, 1709 New York Ave NW, Washington DC 20006. Ph/fax: +1-202638-6300/0036. 1994.

Energy savings and Job Impacts from the Proposed Energy Tax

Skip Leitner. 20p. \$6. 1993.

Industrial Energy Efficiency: Trends, Savings Potential and Policy Options

Howard Geller. 30p. \$6. 1994.

Electricity Consumption and the Potential for Electric Energy Savings in the manufacturing Sector

R. Neal Elliott. 60p. \$10. 1994.

Market Transformation Strategies to Promote End-Use Efficiency

Steven Nadel. 50p. \$10. 1994.

All from ACEEE Publ., 2140 Shattuck Avenue, # 202, Berkeley, CA 94704, USA. Ph/fax: +1-510549-9914.

Powering the Future: Blueprint for a Sustainable Electricity Industry

C Flavin & N Lenssen, World Watch Paper No.119. Contact: Jim Perry, WWI, 1776 Massachusetts Ave. NW Washington DC 20036-1904. Ph/fax: +1-202-4521999/2967365. 74p. 1994.

European Directory of Renewable Energy, 1994 - Suppliers and Services

432p. \$75. 1994

A Solar Manifesto

The need for a total Solar Energy Supply and How to Achieve it. 240p. \$35. 1994. Both from James & James Ltd, Publ., 5 Castle Rd, London NW1 8PR. Ph/fax: +44-71284-3833/3737.

Climate Time Bomb. Signs of Climate Change

Greenpeace Int., Keizersgracht 176, 1016 DW Amsterdam, Netherlands. 14p. 1994.

Joint Implementation from a European NGO Perspective

Climate Network Europe, 44 rue du Taciturne, B-1040 Brussels, ph/fax: +32-22-310180/305713. 60p. 1994

Study on Actual Romanian Energy Situation and Alternative Solution for the Further Strategy

PP Galati, str Siderurgistilor, bloc SD4A, ap. 12, 6200 Galati, Romania. Ph/fax: +40-36-457381. 35p. 1994.

Rural Lighting

A guide for Development Workers - stand alone systems, buyers guide - by Jean-Paul Louineau et.al. Intermediate Technology Publications Ltd., 103-105 Southampton Row, London WC1B 4HH, UK. Ph/fax: +44-71436-9761/2013. 180p. \$28.50. 1994.

The Earth Summit Agreements - A Guide and Assessment

M. Grubb et.al. 180p. £12.50. 1993.

Sustainable Development and Energy Industries - Implementation and Impacts of Environmental Legislation

Nicola Steen. 350p. £15.95. 1994.

Transport in Transition - Lessons from the History of Energy

Stephen Peake, 125p. £12.95. 1994.

Rebuilding Romania - Energy, Efficiency and the Economic Transition

Walt Patterson. 200p. £12.95. 1994.

Prospect and Strategies for Nuclear Power - Global Boom or Dangerous Diversion?

Peter Beck. 142p. £12.95. 1994.

All from RIIA/Earthcan Publications. The Royal Institute of International Affairs, Chatham House 10 St James's Square London SW1Y 4LE. Ph/fax: +44-71957-5700/5710.

The Efficient Alternative

- How can we do away with nuclear power, reduce pollution, conserve natural resources and save money. P.W.Agne, Tarragon Press, Moss Park, Ravenstone, Whithorn, Scotland, DG88DR UK. Ph/fax: -988850-368/304. 96p. £7. 1994.

The Slovakian Nuclear Power Plant Mochovce

Documentation for Opinion Leaders. Philip Weller, Global 2000, Flurschutzstr.13, 1120 Vienna, Austria. Ph/fax: +43-1-81257-30/28. 30p. 1994.

Periodicals

AFPRO Development and Ecology

Bimonthly, Contact: Mr Raymond M. Myles, AFPRO, 25/1A Institutional Area, Pankha road, D-Block Janakpuri, New Delhi 110058 India.

Stove News

Bimonthly. Foundation for Woodstove Dissemination (FWD), PO Box 30979, Nairobi Kenya. Ph/fax: +254-2-566032/561464.

CLIMAX

Quarterly campaign paper for the Climate is Right for a Change, a common campaign of the European youth environmental networks: EYFA, A SEED Europe, YEE and YDC. A SEED Europe, Postbus 92066, 1090 AB Amsterdam, Netherlands. Ph/fax: +31-20-6682236/6650166.

The VERGE

the European Environmental Networking Magazine, bimonthly. EYFA - European Youth Forest Action, Postbus 94115, 1090 GC Amsterdam, Netherlands. Ph/fax: +31-20-6657743.

COMMON GROUND

Uniting North & South, Activists and Practitioners in Sustainable Development & Environment. Edited by Elizabeth Barrett, ICDES, Int. Centre for Development and Environmental Studies, Edge Hill University Coll., St Helens Rd, Ormskirk Lancashire L39 4QP. Ph/fax: -695 575171/579997.

The 2050 Project

Quarterly, project '93 - '96 on sustainability. Contact: Ms Stacy Gillis, World Resources Institute, 1709 New York Avenue, NW Washington DC USA. Ph/fax: +1-202-6622517/628 0878.

Earth Council Information Letter

Bimonthly. P.O. Box 2323-1002 San Jose, Costa Rica, ph/fax: -506-233418/ 552197.

News at SEVEN

Quarterly in English and Czech. Information about energy efficiency events and developments in the Czech Rep. Available on e-mail. SEVEN, Slezska 7, Prague 2. Ph/fax: +42-2-2424-7552/7597, e-mail: seven@ecn.gn.apc.org.

The Baltic Region - Our Habitat

Quarterly, computerized Environmental Bulletin. Green Peace Association of Social Ecological Union of Russia. Molodezhnaya st 22-87, 188537 Sovnovy Bor, St Petersburg reg., Russia. Ph/fax: +7-81269-49481.

Focus on Fusion

Thermo nuclear fusion, quarterly. Edited by Jim Woolridge. Earthwatch, Harbour View, Bantry, Co. Cork, Ireland. Ph/fax: +353-27-50968/50545.

Events

* INforSE Campaign activities

September 26 - October 5, 1994

Parallel activities to IMF/World Bank meeting, Madrid, Spain.

Aedenat, c/Campomanes 13, 28013 Madrid. Ph/fax: +34-1-5590334/7517108.

October 3-5, 1994

8th European Conference on Biomass for Energy, Environment, Agriculture and Industry, Vienna, Austria.

Info: Dr Chartier, ADEME, fax: +33-1-46455236.

October 3-7, 1994

Bioresources/94, Bangalore, India

Biomass Resources: A Means to Sustainable Development. Info: Biomass Users Network, Information and Skills Center, King's Coll., Campden Hill Rd, London, W87AH, UK, ph/fax: +44-71-3334085/4

October 4-7, 1994

PRAGOTHERM, Czech Republic

International exhibition of heating and air conditioning. Info: Incheba, ph: 42-2 2419-5201, fax: 42-2-2419-5286.

October 6, 1994

Practical Results of Efficiency Activities in the Czech Republic's Energy Sector, Czech Republic

Seminar accompanying Pragotharm. Info: V Simunek, Energy Managers Assoc., ph: 42-2-6675-3431.

October 6, 1994

Cogeneration Policy in Europe - Unlocking the Potential, Brussels

Info: T van der Does, COGEN Europe.

*October 1994**

Roundtable on Sustainable Energy and Employment, Slovakia

Info: INforSE, see p. 6.

October 24-27, 1994

Third International Conference on Power Quality, Amsterdam, NL

Info: mr de Zwart, KEMA, ph: +31-85-566093, fax: +31-85-513683.

October 24-28, 1994

III International Conference "Down to Earth", Costa Rica

Practical Appl. of Ecological Economics, ph/fax: +506-2601600/2376868.

October 28, 1994

Climate Change & UK Agriculture Conference, CAN-SAFE, London

Info: Climate Action Network UK, S. Cavanagh, 21 Tower St, London WC2 9NS, ph/fax: +71-2404936/2291.

November 1-3, 1994

3rd International Energy Efficiency & DMS Conference "Changing the Future", Vancouver, Canada.

Info: Dr Little, SRC Int, ph: +1-212-6673114, fax: +1-212-6675593.

November 1-5, 1994

Energy and Environment: Transitions in East Central Europe, Czech Rep.

International conference with focus on technology and socioeconomic issues. Info: Milan Fara, Vaclav Smetak, ph: +42-2-741-474, fax: +42-2-741-256.

November 8-10, 1994

Energy Efficiency Business Week '94, Praha, Czech Republic.

Info: SEVEN, ph: +42-2-24247552, fax: +42-2-24247597.

November 8-11, 1994

Energy Policy for Sustainable Development of the Amazon Region, Brasilia, Brazil.

Info: Prof. MA Di Lascio, NUPLE/CEAM/UnB, CEP 04655m 70919-970 Brasilia DF, fax: +55-61-2734539.

November 15-17, 1994

ENEF'94, Future Perspectives for Energy Efficiency in Slovakia, Banská Bystrica, Slovakia.

Info: Mr. Rutsek, EMES Ltd. P.O.Box 135, Partizánska 94, 974 01 Banská Bystrica. Ph/fax: +42-88-745183.

November 21-25, 1994

Project Planning for Sustainable Development and Environment, Denmark

Workshop. Info: Ms Gulli Jakobsen, DanChurchAid, Nørregade 13, 1165 Copenhagen K, Denmark, ph: +45-33-1552800, fax: +45-33911305.

November 23-25, 1994

Energy Efficiency 2000 international symposium, Switzerland

Energy Prospects of Central and Eastern Europe in the Presence of Energy Efficiency Imperative, by 2010. Info: IASEN/AISEN, ph: +41-21-693-2402 fax: +41-21-693-2863.

*November 1994**

Seminar on Sustainable Energy and Employment, Bonn, Germany

Info: INforSE, see p. 6.

*November 27-30, 1994**

INforSE Campaign Workshop, Copenhagen, Denmark

Info: INforSE, see p. 5.

November 28-29, 1994

Emerging Policies for European Energy, London

RIIA, 10 St James Sq, London SW1Y 4LE, ph/fax: +44-71-9575700/10.

December 1-3, 1994

INforSE Coordinators meeting, Copenhagen, Denmark

Info: INforSE.

December 5-9, 1994

First World Conference on Photovoltaic Energy Conversion, Hawaii.

Info: D.J. Flood, NASA Lewis Research Centre, fax: +1-216-4336106.

January 12-October 12, 1995

Walk Across Europe for a Nuclear-Free World 1995

Info: For Mother Earth, Zilverhof 19, B-9000 Gent. Ph/fax: +32-9-2333268/4924, e-mail: motherearth@gn.apc.org.

March 6-12, 1995

UN, World Summit for Social Development, Copenhagen, Denmark.

DPCSD, ph/fax: +1-212-9635855/1010.

*March 6-12, 1995**

Global Forum '95, Copenh., DK.

Parallel to the WS for Social Dev.

*March, 1995**

NGO Climate Conference, Berlin

Leading up to the COP1. Info: CNE, 46 rue de Taciturne, B-1040 Brussels. Ph/fax: +32-2-2310180.

March 26-30, 1995

Technologies for Energy Efficiency and Environmental Protection, Cairo

Conference and Exhibition. Info: Fed. of Egyptian Industries, 6 Gezira El Wosta Str. Zamalek, Cairo, ph/fax: 3403674.

April, 1995

The Climate is Right for A Change

Youth conference and actions parallel to the COP1. Info: EYFA or A SEED, PO Box 62066, NL-1090 AB Amsterdam. Ph/fax: +31-20-665-7743/0166.

ULOG Solar Ovens in Basel and Worldwide

Solar Energy For All !

This is the motto of the ULOG group, an informal group of about 20 volunteers in Switzerland committed to making solar energy available to the people of the world. The ULOG group was founded by Ulrich Oehler in 1980 to realize this objective. During the past twenty years, the group has successfully developed standard and family-sized solar oven cookers for tropical as well as non-tropical conditions. It has also developed SHCK, the Solar Hybrid Community Kitchen, which serves more than 40 people.

Success in Basel

Presently, more than 6000 Swiss households own a solar oven! Switzerland has probably the highest density of solar cookers of all of the countries of the world. The one cooker per 1000 inhabitants saves as much energy as all of the PV-installations in the country. In Basel, the solar cooker can be used on 100 to 150 days per year. On average, one can prepare about 250 cooked meals in that time, which saves about 500 kWh per year.

Assembly Instructions - Recipe Books

To make the cookers acceptable to communities, the group produced a simple design that can be manufactured and disseminated locally. The cooker costs little, is easy to use, and can reproduce local cuisine. It comes with an installation instruction booklet, and people can see an instructional video film in several languages

to help them build a solar oven. The assembly instructions also give information about what a solar cooker can do and cannot do, how long the cooking hours are, how the oven should be cleaned, how the oven works, etc. They include detailed recipe books for local foods as well.

Workshops

The ULOG group offers ready-to-use and partly assembled models in two sizes with instruction and accessories. In Switzerland, they hold one- or two-day courses in which people can learn how to assemble the solar ovens. A wide variety of interested groups has organized courses where even those who are inexperienced in handcrafts can build their own ovens. For groups of at least six participants, the ULOG group furnishes an instructor, who can also present a slide show covering

many additional aspects of solar energy and the oven.

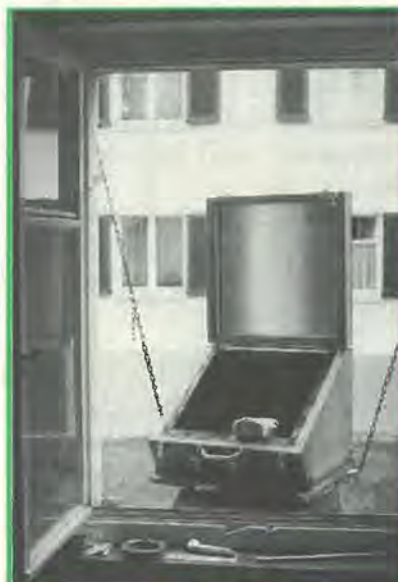
Success all over the World

The solar ovens' biggest successes are in Senegal, Kenya, and Sudan. Several thousands of solar cookers have been built in these countries by the ULOG and other project groups as well. At the end of the year there will be about 20 SHCKs, Solar Hybrid Community Kitchens, in India, Sudan, Kenya, Peru and Europe. SHCKs are used for, e.g., monasteries, hospitals, schools, and refugee camps. Many projects were subsidized by private sponsors from Switzerland and by a specialized NGO called VKSE. The mobile SHCK is often used for 'solar happenings' in Switzerland and Germany.

No Patent Protection

The products are not protected by patents. The ULOG groups encourage everybody to build their own equipment.

More information from Ulrich Oehler, development engineer, 18 Morgartenring, CH-4054 Basel, Switzerland. Ph: +41-61-3016622.



Solar cooker in Basel Switzerland. If the flat does not have a sunny balcony, the solar cooker can be placed on a plate outside the window.