



Photo: Maria M. Morales

Women collecting water outside Lusaka, Zambia



Photo: Maria M. Morales

Cooking stove used in Sudan



Photo: Maria M. Morales

Informal market outside Dakar, Senegal

We are very pleased to present the 2nd issue of the Partners for Africa newsletter. The project's goal is to prove the role of renewable energy in poverty eradication through the creation of partnerships and to support policy making in the areas of renewable energy and sustainable resource management, health and enterprise development. Different types of policy, programme and action partnerships have been established in the aforementioned areas during the first half of the project (for more information please refer to page 2). Partners for Africa project has been deeply engaged in the support of policy making activities in South Africa and Zambia. Emphasis has also been put on a wider use of renewable energy and modern biomass for a sustainable energy future since modern biomass offers the poor new options for sustainable livelihoods. Another aspect explored throughout the project is the potential use of liquid biofuels for transport and cooking in African countries.

- The Editor

Zambia Workshop and Ministerial High-level Dialogue

A National Policy Workshop and a Ministerial high-level Dialogue was held in Lusaka, Zambia in December 2004 under the framework of "Partners for Africa" (PFA) Project.

The Policy Dialogue on Biofuels, Renewable Energy for Public Health and Enterprise Development, held on 14-15 December at the Mulungushi Conference Centre focused on: Zambian Energy Policy Initiatives; Financing and Enterprise Development; Renewable Energy Technologies for Public Health and Sanitation; and Opportunities for Liquid Biofuels at national and regional scales.

The workshop was organised by the Centre for Energy, Environment and Engineering, CEEEZ, Zambia and co-organised by the Stockholm Environment Institute, SEI.

Stakeholders at the workshop included international and local experts from industry, academia, government, NGOs, and trade groups.

It was encouraging to experience the intensive dialogue between key stakeholders, experts and decision-makers from Zambia. The success of the workshop was attributed to the broad, multi-sectoral attendance and the strong local interest.

In addition to the workshop, a ministerial high-level dinner policy dialogue took place on December 14, 2004. The objective was to disseminate the objectives of PFA. Focus was on the role of biofuels in poverty alleviation.

The Department of Energy (DoE), under the Ministry of Energy and Water Development and the Energy Regulatory Board (ERB) is currently undertaking a major restructuring of the energy sector in Zambia and bioenergy will potentially play a very important role in the future. A higher profile for biofuels in the political agenda and the formulation of new energy policies are a main goal to modernise the 1994 National Energy Policy (NEP).

Next event: Partners for Africa Policy Dialogue Conference

The Role of Renewable Energy Policy in Africa for Poverty Alleviation and Sustainable Development, 22-24 June 2005 in Dar es Salaam, Tanzania. For more information see page 3.

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In attendance at the dinner were four cabinet ministers and one deputy minister. Due to the importance of the meeting, Chairpersons and Directors of relevant Government Autonomous Scientific/Quasi-scientific bodies were invited by the focal point ministry (MSTVT) in addition to PfA Partners from both Africa and Europe.

Policy Dialogue workshop in Senegal

A Policy Dialogue Workshop was held in Dakar, Senegal 20-21 April 2005 in the framework of Partners for Africa project. This policy dialogue was organised by ENDA Senegal and co-organised with ITDG, United Kingdom. The workshop brought together policy and decision makers, researchers, NGOs and the Civil Society,

to discuss and analyse the different issues related to sustainable household energy and health, such as indoor air pollution, poor lighting, sustainability and income generation and the existing policies, and programmes promoting better health and the development of Millennium Goals. The policy dialogue identified relevant policy needs and ways of implementing them.

Partners for Africa - A success story

by Dr. Rainer Janssen, WIP - Renewable Energies, Germany (rainer.janssen@wip-unich.de)

Objectives

The objective of the project PARTNERS FOR AFRICA is to demonstrate the role of renewable energy in poverty eradication and to offer support to policy making activities in sustainable resource management, health and enterprise development in the framework of the European Commission's INCO Programme.

Thereby, the action will support and stimulate the activities of the European Energy Initiative for Poverty Eradication and Sustainable Development. This initiative was launched at the Johannesburg World Summit for Sustainable Development to help achieve the Millennium Development Goals by creating a focus on better access to sustainable energy services for the more than two billion "energy poor" of our planet.

International and local partnerships will be mobilised to support policy making. The partnerships will be of three essential types: Policy Partnerships, Programme Partnerships and Action Partnerships. Policy Partnerships will support the development of progressive energy policy initiatives directly through research activities and stakeholder networking. Programme partnerships will initiate and support training and capac-



Ministerial high-level dinner policy dialogue held at Lusaka, December 2004

Photo: Maurice Pigatt

ity building initiatives. Action Partnerships will lay the foundations for concrete projects including pilot projects.

Partnership

The consortium comprises 6 highly competent actors, active in the renewable energy and international development fields. The 3 European members of the consortium are the WIP-ETA Consortium (Germany/Italy), ITDG (UK) and SEI (Sweden).

This project builds upon the experiences and results of the following successful global energy and development networks, initiated by the European Commission's INCO Programme and coordinated by the European consortium partners: LAMNET (www.bioenergy-lamnet.org), CARENSA (www.carensa.net) and Sparknet (www.sparknet.info).

The African consortium members are experienced and have an established reputation in the fields of renewable energy and development. They are Illovo Sugar

(South Africa), ENDA (Senegal) and CEEEZ (Zambia).

Activities

A variety of partnerships on renewable energy and sustainable resource management, health and enterprise development have been initiated in the framework of the PARTNERS FORAFRICA project.

Partnerships: Renewable energy and sustainable resource management

- Policy Partnership: Government Policy on Ethanol - South Africa
- Policy Partnership: Government Policy on Cogeneration - South Africa
- Action Partnership: Pelletisation of Sugar Cane Bagasse - South Africa
- Programme Partnership: Use of Bioenergy and Small-hydro to improve Access to Modern Energy Services and to produce Renewable Transport Fuels -Zambia

Partnerships: Renewable energy and health

- Programme Partnership: Reduction of Indoor Air Pollution in Poor Households
- Action Partnership: Water and Sanitation Through Sustainable "Eco-San" Energy and Water Systems

Partnerships: Renewable energy and enterprise development

- Policy Partnership: Comprehensive RE Policy Methodology for Zambia - Revision of the National Energy Policy

- Action Partnership: Energy Service Companies (ESCOS) for Rural Electrification in Zambia
- Programme Partnership: Provision of Micro-credits and Seed Capital to Entrepreneurs Active in the Field of Clean and Sustainable Energy

Results

The PARTNERS FOR AFRICA consortium has been deeply engaged in the support of policy making activities in South Africa and Zambia. The main project tools in this respect were the successful project policy dialogue workshops in Durban (21-23 June 2004) and Lusaka (14-16 December 2004).

Policy Dialogue on Cogeneration and Bioethanol for Southern Africa

The high-level Policy Dialogue Workshop on Co-generation and Bioethanol for Southern Africa in Durban, 21-23 June 2004, was organised in close co-operation with the European Energy Initiative (EUEI). Thereby, one of the main aims of this policy dialogue was to discuss successful Brazilian bio-energy experiences in a Southern African context.

As a main outcome of the policy dialogue workshop, the PARTNERS FOR AFRICA project consortium has elaborated several policy recommendations in cooperation with South African Government representatives.



Photo: Maurice Pigaht

Policy dialogue stakeholders workshop held at Mulungushi Conference Centre, Lusaka, December 2004

For more information including workshops and proceedings, please see www.partners4africa.org

Next Event: Partners for Africa Policy Dialogue Conference The Role of Renewable Energy Policy in Africa for Poverty Alleviation and Sustainable Development

A contribution to the dialogue between EU and Africa in the framework of the European Union Energy Initiative - EUEI

The final *PARTNERS FOR AFRICA* policy dialogue conference will be organised by WIP - Renewable Energies in collaboration with TaTEDO, Tanzania, on 22-24 June 2005 in Dar es Salaam, Tanzania.

Objectives

The main objective of this policy dialogue conference is to contribute to the improved access to sustainable renewable energy services for the "energy poor" in Africa by:

- 1) raising political awareness among high-level decision makers in Africa** for the need of suitable renewable energy policies and market regulations
- 2) providing guidelines and background information for policymakers and investors**

Key focus of the conference will be the creation of modern renewable energy policies (including those that can mobilise private sector investment) and the identification of "best practice" project and programme implementations in the fields of employing renewable energies for enterprise development.

- efficient use of traditional biomass for the conservation of natural resources
- renewable energies for rural electrification and decentralised energy systems
- mechanisms for delivery of renewable energy services, including successful financial and organisational models
- renewable energy market development and the role of the private sector

Conference coordinators/contact points:

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Participants of this conference will include high-level decision makers from several African countries, representatives from the European Commission, EU Member States, the World Bank, the Private Sector, other international initiatives (e.g. NEPAD, GNESD, GFSE, GVEP) as well as national and international energy experts and stakeholders.

FELISA: the potential of biofuels in Southern Africa

by Mr. Hamimu Hongo and Mr. Stefan De Keyser, FELISA Co Ltd., Tanzania (hamimuh@yahoo.com)

Mother Nature had always satisfied man's energy needs in a renewable manner, until the industrial revolution began exploiting the earth's fossil reserves: coal, fossil oil and "natural" gas. These energy reserves, although abundantly available, are not unlimited and will become exhausted in a few decades. Meanwhile, the competition for energy is growing fierce with the price for the fossil reserves escalating, both in financial and political terms. The much awaited miracle energy source, nuclear fusion, is not yet beyond its conceptual phase, and man's bitter experience with nuclear fission compels us to caution. The current circumstances bring renewable energy back into the spotlight. After all, our global energy needs (~ 410²⁰ Joule/yr) are only a fraction of what the earth receives from the sun (~ 510²⁴ Joule/yr).

The energy challenge is especially acute in the transport sector, as most vehicles will continue to rely on liquid fuels for the decades to come. Diesel and petrol (gasoline), obtained from fossil oil, will gradually be replaced by renewable liquid fuels which are called biofuels. The most important among them are pure plant oil or PPO, biodiesel (diesel derived from PPO) and ethanol made from starch or sugar. Study results (International Energy Agency, 2004)¹ suggest that by 2050, biofuels could represent fifty percent of the fuels for transport. Brazil was the first country to venture into biofuels. That country started large-scale ethanol production from its sugar cane some twenty-five years ago. Brazil can today produce biofuel for its own consumption as well as for export. The Brazilian example has inspired others, and we now observe a spectacular growth in the global production of ethanol (to be blended with gasoline) and biodiesel. Biofuels may soon become the single most important agricultural commodity.

The crops that are used for biofuel production are called energy crops. Indications are strong that for the production of these, farming systems from the temperate regions will not be competitive vis-à-vis farming systems in the tropics. As a result, biofuels from the tropics will be much cheaper. In fact they already became price competitive with fossil oil.² Biofuels are therefore a source of hope for the farmers in the tropics, many of whom live in poverty today. This hope is reinforced by the additional fact that the production of biofuels does not require high technology.

For the biofuel potential to be developed, governments in the South have to create the correct pro-poor enabling environment. If they do this, the oil wealth that for more than a century has enriched a tiny number of oil magnates, will in the future benefit millions of countrymen and women. A truly democratic change!

Vision and mission of FELISA

FELISA is a project and at the same time a concept. Its name stands for "Farming for Energy, for better Livelihoods in Southern Africa." Farming for Energy offers a solution to Southern Africa's agriculture sector, in the quest for a market and employment. It also responds to the energy sector priority to use more renewable energy. FELISA builds a bridge between two sectors of the economy that used to have little in common.

While promoting all forms of bioenergy, FELISA will focus on the production of biodiesel. The energy crop of choice is oil palm, as it has the highest oil productivity on earth (four tonnes per hectare). The cake that remains after oil extraction will be fermented for compost. During composting, biogas

(mostly methane) is produced, which can be used for cooking, heating or for electricity production. The compost is reintroduced in the plantation allowing recovery of the nutritional elements. The whole process is schematised in figure 1.

Biodiesels, or alkyl esters in chemical terms, are the result of a reaction between an alcohol and an oil or fat. The reaction is catalyzed by a base (sodium or potassium hydroxide). It is a relatively simple reaction that allows for small-scale production because of the following:

- Low temperature (75° C) and pressure (20 psi) processing;
- High conversion (98%) with minimal side reactions and reaction time;
- Direct conversion to methyl ester with no intermediate steps; and
- Simplicity of the reactor

Unlike ethanol plants that are made as large as possible for reasons of economies of scale, biodiesel production units can be of any size. Small reactors with a capacity of fifty or hundred litres per batch might suffice for the diesel production of an individual family, a school or a hospital. Medium sized units with a capacity of a few million litres of biofuel per year already warrant investments in gas production and electricity generation. To supply enough biomass for the fuel, cooking gas and electricity needs of an average town (say 50.000 habitants), plantations of a few thousand hectares of oil palm suffice.

The production of energy crops will employ millions of rural labourers and boost the economy in Africa. Farmers will welcome the presence of a market just around the corner. Traders will welcome the decreased cost of transport. Local entrepreneurs will see many investment opportunities in the spin-offs from the biofuel production. For the national governments, biofuel production will allow for savings on foreign exchange equal to the value of the conventional diesel substituted. Moreover, as resources

¹ See "Biofuels for Transport: an International Perspective". (International Energy Agency, May 2004)

²Price per litre: Crude oil (Brent) US\$ 0.30, Palm oil (Malaysia) US\$ 0.30, Ethanol (Brazil) US\$ 0.20

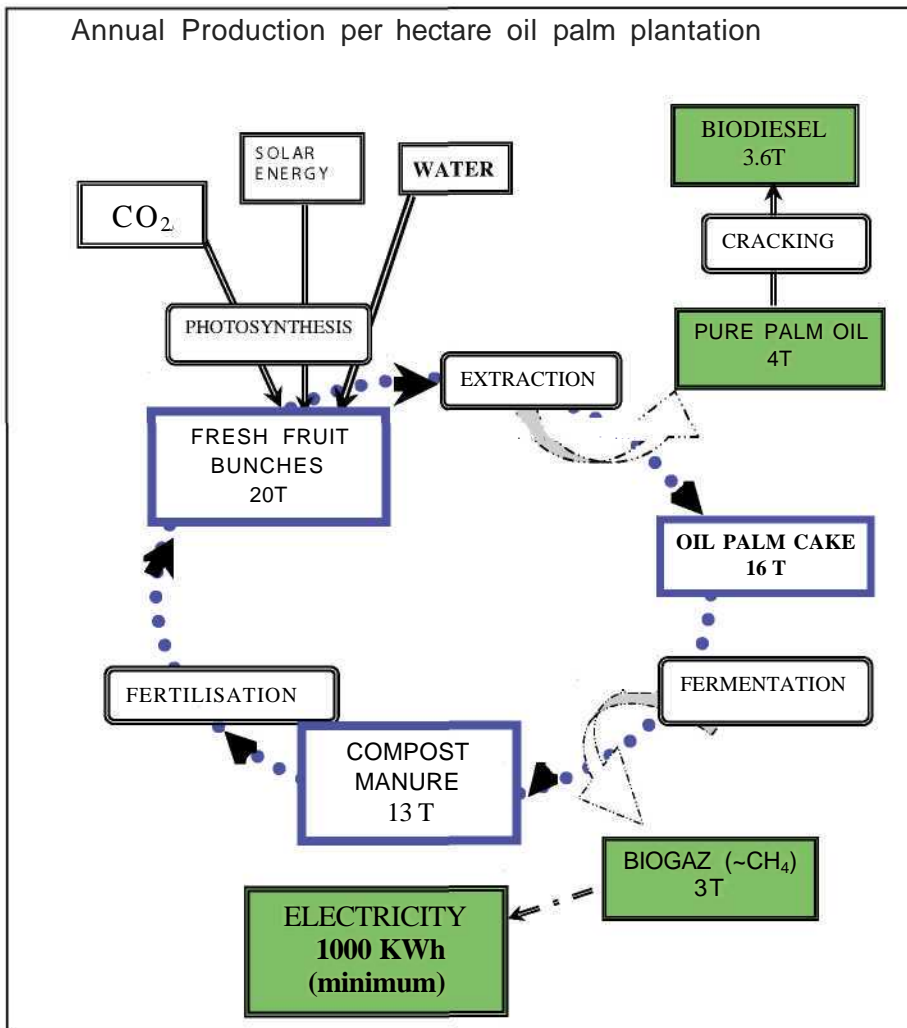


Figure 1: Farming for Energy, FELISA's flow chart

are immediately re-injected in the economy, biofuels will generate a sustainable economic growth. African countries will be less dependent on external vagaries, exchange rates, and they will produce clean energy for a better environment. Through these achievements FELISA will greatly contribute to poverty reduction and help Africa to attain the Millennium Development Goals.

Environmental considerations

It is argued that the world is short of suitable land for biofuel production, and that the production of energy crops will cause irreparable environmental degradation. FAO studies suggest that this will not be the case. There is still potential agricultural land that is as yet unused. At present some 1.5 billion ha of land is used for arable and permanent crops, around 11 percent of the world's surface area.³ A recent assessment by FAO and the International Institute for Applied Systems Analysis (IIASA)⁴ suggests that a fur-

ther 2.8 billion ha are to some degree suitable for rain fed production, which is largely sufficient to satisfy the world's energy needs.

³ In the SADC region only 5% of the land is used, while about 20% is suitable for rainfed agriculture

Table 1: Cropland potential for five selected SADC countries in million ha

Country	Land Area	Suitable Cropland (~ 20%)	Area Under Crops Today	Area Required For Domestic Energy Supply
DRC	227	45	8	0.2
Angola	125	25	4	0.6
Tanzania	88	18	5	0.3
Zambia	74	15	5	0.2
Mozambique	78	16	3	0.2

Source: FAO-IIASA, own calculation

The pool of unused suitable cropland is very unevenly distributed. Sub-Sa-

haran Africa and Latin America are still farming only around a fifth of their potentially suitable cropland. Five countries of the Southern African Development Community (SADC) have ample room for expansion. Table 1 assesses their potential cropland. The last column gives the area needed to satisfy their national energy needs (if sugar cane or oil palm are used as energy crops). All figures are given in million ha.

A first conclusion is that these countries can easily satisfy their current energy needs by allocating a part (< 10%) of their cropland to energy crops. The income generated by this would allow farmers to buy fertilisers and to increase food production on the remaining land. Farming for energy will thus contribute to the national food security. The five countries can also choose to increase their cropland with up to 100 million ha. This would allow these countries to produce sufficient biofuels for the entire SADC region, which would today require 11 million hectares of energy crops. It would even allow for exports abroad. Using the figures above, the SADC agriculture sector could provide ten percent of the entire world's oil supply, representing a market share of US\$ 100 billion. This is equal to 50% of SADC GNP.

Farming for Energy is not a threat to the environment nor to the society, as

¹ Global Agro-Ecological Assessment for Agriculture in the 21st Century: Methodology and Results (Günter Fisher *et al.*, January 2002)

some claim. It is instead a huge opportunity for sustainable development, in particular for the SADC region.

Beyond petroleum and towards a biomass-based sustainable energy future: opportunities for financing sustainable development and carbon trade¹

By Sergio C. Trindade. SE²T International, Ltd. (strindade@alum.mit.edu)

In the long term, the engine of the world economy will be a modern renewable energy fuelled system. Hydrogen will be the most common energy carrier, and biomass energy systems will play a key role in the new energy architecture, and will be one of the sources of hydrogen. Biomass in the context of this essay is defined as organic, non-fossil material of biological origin constituting an exploitable energy source. In the immediate future, fossil fuels (coal, oil and natural gas) will continue to be the major energy sources on a global scale. Nevertheless, a gradual market penetration of "new" renewable energy sources - solar, wind, geothermal, modern biomass, ocean and small hydro - is predicted, driven by concerns over sustainability of energy supplies, local environmental quality, global warming derived from climate change, job creation and sustainable development.

The World Energy Council scenarios for 2020 visualise "new" renewable energy sources contributing in the range of 3-12 percent of total primary energy consumption, up from 1.9 percent in 1990. Over 40 percent of these would come from "modern" biomass sources, about one quarter from solar and one third from other sources such as wind, geothermal, small hydro, waste or residues, etc. More radical long-term scenarios developed for Greenpeace, by the Stockholm Environment Institute, envision by 2100 a fossil-free energy world, also free of nuclear energy. Accordingly, all energy would come from solar/wind, biomass and other renewables; hydrogen would become the major energy carrier; and biofuels would provide 20 percent of transportation energy.

Regarding transportation fuels, for example, in Brazil today, ethanol fuels are already supplying 20 percent of the transportation energy requirements. In the USA, the second largest world market for ethanol fuels, they make only one percent of transportation fuels. To a lesser degree Canada, Sweden, France and Spain are using ethanol fuels or ethanol derived ETBE (ethyl ter-butyl ether). Other current users include Kenya, Malawi and Zimbabwe. Furthermore, Australia, China, Colombia, India, Japan, Peru, Thailand and the UK are beginning to use or to consider the large-scale use of fuel ethanol. Oil-bearing vegetable ma-



Charcoal and woodfuel storage in Sudan

terials, suitably processed into methyl or ethyl esters, yield biodiesel, which is already beginning to penetrate markets, notably in Europe (e.g. Austria, France and Germany).

Good candidates for an early entry into biofuels production and trade must meet certain criteria. These are countries, which have natural endowments to grow food, feed and fiber to satisfy their domestic demands and the international market, and can still either grow crops or use cellulosic wastes or residues for biofuels production (such as ethanol and biodiesel). Countries that must meet carbon emission commitments under the Kyoto Protocol, such as Japan and the European Union, are prospective large-

scale users of imported fuel ethanol.

Modern biomass gasification, which converts cellulosic wastes and residues into fuel gases, synthesis gas and hydrogen, heat, steam and electricity, provides further opportunities for the materialization of a sustainable biomass-based energy future.

The sustainability of liquid biofuels markets, notably fuel ethanol, depends on many factors, one key among them being the ability to maintain an active international trade market, despite domestic protectionism. After all, all known commercial energies are traded internationally (electricity, coal, oil, gas). Therefore the sustainability of liquid biofuels requires that they become truly energy commodities. Thus, there is room to expand the liquid biofuels market towards a stable and sustainable market, as suggested in many future energy scenarios. Nevertheless, their market penetration is likely to be limited, albeit important, in any future scenario, due to many constraints and competition with other energy sources, including other renewable sources.

A more comprehensive economic analysis, which would internalise the positive externalities provided by biomass-based energy systems, such as those related to local and global environments, would make a cleaner distinction between them and fossil-based energy. Lower investment employment generation and rural development provided by biomass energy growth are additional drivers that would help decision-makers support and encourage the market penetration of sustainable biomass energy. As the experience of Brazil and other countries demonstrate, the transition towards a biomass-based energy future offers plenty of strategic opportunities for private, public and multilateral capital to finance sustainable development and carbon recycling.

¹Based on a revision of Trindade, Sergio C. (2000). *Beyond Petroleum: Towards a Biomass-based Sustainable Energy Future*. UNEP's Industry and Environment journal, Vol. 23, No. 3, Paris

PARTNERS FOR AFRICA supports the establishment of a bioenergy clearing house for poverty alleviation in Sub-Saharan Africa

by Dr. Rainer Janssen and Maurice Pigaht, WIP - Renewable Energies, Germany
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Based on the successful activities of the project PARTNERS FOR AFRICA including high-level policy dialogues in South Africa (June 2004) and Zambia (December 2004), the PfA consortium developed a concept for the establishment of a Bioenergy Clearing House for Poverty Alleviation in Sub-Saharan Africa.

Background

Energy is a key component of any poverty eradication and sustainable development strategy and is critical to the achievement of the Millennium Development Goals. Without better access to sustainable energy services, it will be hard to develop businesses and income generating activities. Homes, schools and health centres will remain without adequate energy for lighting, communication and water supply. Women and children will continue to be exposed to indoor air pollution from the inadequate use of biomass, paraffin or coal for cooking and heating.

In particular, modern forms of bioenergy (liquid biofuels, biogas, smoke-free biomass (ethanol, gelfuel) cooking stoves, improved wood fuel stoves) will play an important role in providing future energy services for poverty alleviation and sustainable development of poor people in developing countries.

In the framework of the PfA policy

dialogues in South Africa and Zambia it was stated by high-level African policy-makers that there is an urgent need for the creation of a Bioenergy Clearing House in Sub-Saharan Africa to provide a common platform for bioenergy stakeholders and a focal point for the collection and distribution of clear, credible and reliable data and information on all relevant aspects of bioenergy. The availability of reliable data as well as an increased capacity building among decision makers in politics and industries is essential for the future development of sustainable bioenergy services in Sub-Saharan Africa.

Scope of the Bioenergy Clearing House

The Bioenergy Clearing House will support the development of bioenergy policy and projects for poverty alleviation. It will collect a critical mass of experts, up-to-date knowledge, and expertise in bioenergy related activities. These activities will include promoting policies and strategies for increased uptake of bioenergy technologies, broadening of financing options for bioenergy promotion and best practices for promoting the use of bioenergy in low-income households and small-scale enterprises. The activities of the Bioenergy Clearing House include marketing research, networking and project development research. This will provide the tools re-

quired to educate and inform policy-makers, SMEs, entrepreneurs and stakeholders.

Expected Results

The main impact of the Bioenergy Clearing House can be grouped into 3 categories: The first is to provide SMEs, entrepreneurs and established businesses with the market and technical information on bioenergy to better plan bioenergy projects and economic activity. The second area of impact is to provide policy makers with the knowledge and arguments required for the development and implementation of a modern energy policy, incorporating bioenergy. The third area of impact is to provide interest groups and businesses with the necessary tools and documents to lobby and influence ministries and politicians to improve the policy landscape in Southern Africa in favour of the bioenergy sector. This will directly impact the lives of the rural poor, as many projects in Southern Africa are currently on hold, as they wait for favourable policy to be drafted and/or passed by parliament.

In conclusion, the PfA consortium is convinced that the creation of a Bioenergy Clearing House for Sub-Saharan Africa would be an important step forward boosting biomass energy market development and the provision of sustainable bioenergy services for the "energy poor" in Sub-Saharan Africa. •

This Newsletter is intended to provide information on the Partners for Africa (PfA) activities.

Please visit our Website for the latest news on the PfA project: www.partners4africa.org
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LAMNET, a Global Network on Bioenergy, constitutes a transnational forum for the promotion of the sustainable use of bioenergy.

The activities of LAMNET include the analysis of existing energy policy frameworks, the assessment of energy demand and biomass resources, the analysis of available bioenergy technologies and systems as well as the development and implementation of policy options.

LAMNET focuses on the promotion of small- and medium-scale decentralised bioenergy systems and the large-scale implementation of bioethanol production¹ and generation of heat and electricity based on sugar cane and other suitable biomass resources.

LAMNET brings together 49 institutions and companies located in 23 countries within Europe, Latin America, Africa and Asia.

CARENSA, the Cane Resources Network for Southern Africa illustrates the role of bio-energy from sugarcane in promoting sustainable development and improving global competitiveness in the region of southern Africa. CARENSA aims at a comprehensive analysis of cane resources in the southern Africa region, including technical, socio-economic, environmental, organisational and institutional dimensions.

The network promotes north-south and south-south cooperation and facilitates improved policy co-ordination between researchers, policy-makers, and industry representatives.

CARENSA brings together four European partners, four African partners, three international organisations, and two groups based in the world's two largest cane-producing countries (Brazil and India).

SPARKNET is a multi-stakeholder interactive Knowledge Network focusing on how people, in the context of acute poverty, can gain access to better energy services and improve their livelihoods.

The network makes available unique resources for policy makers, companies, and civil society on energy poverty in Southern and East Africa through the sparknet.info website. Online resources are made available on the relationships between Health, Gender and Forestry and Energy, including detailed country reports, scenario analyses, and policy assessments. Online meetings and conferences will be held at regular intervals.

Through a network of associates in Africa and Europe, SPARKNET brings together 70 organisations and 115 people from research institutes, NGOs, Governments and private companies.

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