



LAMNET – A Global Network on Bioenergy

Strategies and Results

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JOINT WORKSHOP of the Thematic Networks CARENSA, SPARKNET and LAMNET
Kwa-Shukela Convention Centre, Mount Edgecombe (Durban), South Africa, 19 – 21 August 2002



LAMNET - Latin America Thematic Network on Bioenergy

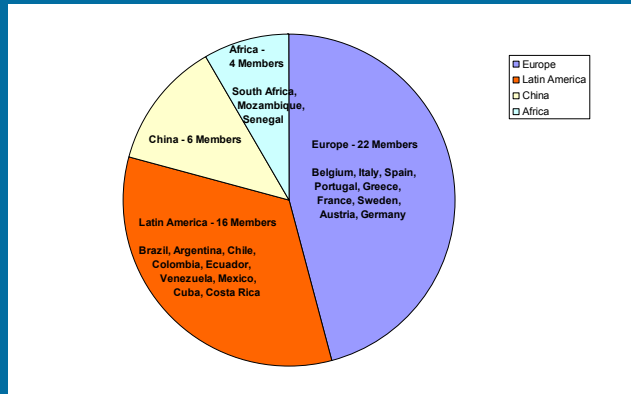
- Global network of 48 institutions from 24 countries
- Transnational forum for the promotion of sustainable use of biomass
- Funded by the European Commission within the programme 'Confirming the International Role of Community Research' Project duration (Jan 2002 – Dec 2004)
- Coordinated by WIP, Germany, in partnership with ETA, Italy and the European Biomass Industry Association, EUBIA
- Latin American organisations CENBIO, Brazil and UNAM, Mexico act as coordination support points

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LAMNET Membership



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LAMNET Thematic Priorities

- Analysis of the Energy Policy Framework
- Assessment of Energy Demand and Biomass Resources
- Assessment of available Technologies and Systems
- Development and Implementation of Technology and Policy Options for the Promotion of Bioenergy

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Definition of Biomass

Biomass is recent organic matter originally derived from plants as a result of the photosynthetic conversion process, or from animals, and which is destined to be utilised as a **store of chemical energy** to provide **heat, electricity, or transport fuels**



Ralph E H Sims, in 'The Brilliance of Bioenergy', James & James Ltd, 2002



Conversion of Biomass Resources to Bioenergy

- **Range of diverse Biomass Resources, including wastes**
- **Processing and Delivery of these Resources to the Energy Conversion Plant**
- **Thermochemical conversion of Dry Biomass Fuels**
- **Biochemical Conversion of Wet Biomass Fuels**





Barriers to the Implementation of Bioenergy

Economic Barriers

- High Costs, Risk of Investment
- Long Payback Period (high capital costs: \$1000/kW)
- Poor 'Bankability'
- No Inclusion of Future Environmental Costs for Fossil Fuels
- Deregulation of Power Industry (lower electricity prices)

Technical Barriers

- Technology and Construction Risks for New Technologies
- Lack of Certainty of Fuel Supply
- Variations of Biomass Quality
- Difficult Physical Handling of Biomass
- Lack of Information on New Technologies

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Environmental Barriers

- Health Problems, High Particulate Emission (unsuitable bioenergy plants)
- Public Rejection against Monocultural Production (lack of biodiversity)
- Effect on Fertility Levels, Downstream Water Use, Leaching of Nutrients
- Unfavourable Energy Balance
- Increased Use of Vehicles for Collection and Transport

Social Barriers

- Competition with Food and Fibre Production
- Future Shortage of Skilled Workers for Harvesting and Collecting

Policy Barriers

- Regulatory and Fiscal Barriers
- Absence of Effective Markets
- Subsidies of Fossil Fuels
- Externalities not Associated to Fossil Fuels

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Instruments to Overcome Implementation Barriers

Economic Instruments

- Carbon Taxes (increase costs of fossil fuels)
- Climate Change Levies on Electricity Sales
- Carbon Trading, Green Certificates
- Long-term Feed-in Tariffs
- Grants and Subsidies
- Increased Depreciation Rates
- Reduced Excise Taxes (fuels with biofuel component)

Non-Economic Instruments

- Targets set by Governments for New Renewables
- Green Electricity Markets
- Education and Access to Information

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Focus of Network Activities - 1

- Co-generation of **Heat and Electricity** based on sugar cane bagasse and other suitable biomass resources
- Large-scale implementation of **bioethanol production** (sugar cane, sweet sorghum, agro-forestry residues)
- Creation of a **global bioethanol market**
- Promotion of **Integrated Bioenergy Complexes** (Bioenergy-Food-Feed Complexes)



Distillation Column, Copersucar, Brazil

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Focus of Network Activities - 2

- Promotion of small- and medium-scale decentralised bioenergy systems
 - Advanced pelletising technologies
 - Micro-turbines for co-generation
 - Micro-distilleries for ethanol production,
 - Charcoal production from residues
 - Efficient biomass cooking stoves



Pelletiser machine, KEMYX, Italy

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International Cooperation – A Partnership for Action

- Identification of typical Local Needs and Biomass Resources
- Identification of Commercial and Reliable Technologies
- Potential for Know-how and Technology Transfer and Joint-ventures
- Identification of Opportunities for Project Financing CDM, Joint Implementation
- Identification of successful Bioenergy Experiences
- Implementation of Bioenergy Cooperation Projects
- Outcome and Drawbacks of Bioenergy Programmes

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Requirements for Successful Bioenergy Projects

- **Biomass Resources** are available or can be sustainably produced
- **Technologies** are available for environmentally acceptable bioenergy production
- **No negative impacts** on the environment and social issues
- **Current of future existence** of markets for bioenergy
- **Reasonable level of investment** for the establishment of the bioenergy industry
- **Reasonable level of risk** for investment

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Events of the LAMNET Project 2002

- **1st LAMNET Workshop** on the occasion of the 12th European Conference and Technology Exhibition on Biomass for Energy, Industry and Climate Protection, Amsterdam, 19 June 2002
- **JOINT LAMNET Workshop**
Durban, South Africa, 19-21 August 2002
WIP, Illovo Sugar Ltd.
- **3rd LAMNET Workshop**
Brasilia, Brazil, 3-4 December 2002
WIP, CENBIO



Source: Illovo Sugar Ltd., South Africa

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LAMNET Dissemination Activities

- LAMNET Project Web site: www.bioenergy-lamnet.org
- LAMNET Project Database
- LAMNET Project Newsletter (2 issues per year)
- Brochure on the occasion of the World Summit on Sustainable Development, Johannesburg, South Africa
- Publications in Scientific Journals
 - International Sugar Journal, Vol. 104, June 2002, No. 1242
 - Proceedings of the '12th European Conference and Technology Exhibition on Biomass for Energy, Industry and Climate Protection'



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LAMNET
Latin America Thematic Network on Bioenergy

Project scope Network Membership Events Publications Links

Second Project Workshop in Durban, South Africa
19/08/2002 - 21/08/2002
[click here for more details](#)

The project Latin America Thematic Network on Bioenergy (LAMNET) is funded by the European Commission in the framework of the specific research and technological development programme 'Confirming the International Role of Community Research'.

The main objective of LAMNET is to establish a trans-national forum for the promotion of sustainable use of biomass in Latin America and other emerging countries.

This global network of 48 institutions (Knowledge Centres and SMEs) from 24 countries worldwide is set up to face urgent needs for improved and regionally adapted bioenergy applications.

The network is coordinated by WIP-Renewable Energies, Germany, in partnership with ETA, Energia Trasporti Agricoltura, Italy and the European Biomass Industry Association, EUBIA. The Latin American organisations CENBIO (Centro Nacional de Referencia em Biomassa), Brazil and UNAM (Universidad Nacional Autónoma de México), México act as coordination support points on the South- and Central American continent.

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LAMNET Database

Scope

Latin America, China and selected African Countries

Content

- Composition of the Energy Consumption (heat, electricity, transport)
- Energy-Mix (hydro-energy, wind-energy, bio-energy, solar-energy)
- Energy Import/Export
- Energy Prices
- Bioenergy Resources (crops, wood, manure, agricultural residues, etc.)
- Existing Energy Policy Framework (e.g. biofuel programs)
- Best Practice Bioenergy Plants and Planned Installations

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LAMNET - D@tabase
Latin America Thematic Network on Bioenergy

Welcome to the
LAMNET - D@TABASE

Please use the Navigation Window on the left ...

In order to move up one level, please click on 'Home'

Please recognize, that this database is still under development

For comments please contact us at contact@bioenergy-lamnet.org

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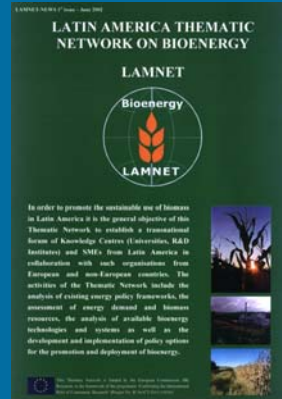
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LAMNET-NEWS

1st Issue of the LAMNET
Newsletter – June 2002 –
is available at
www.bioenergy-lamnet.org

2nd Issue of the LAMNET
Newsletter will be published
in December 2002



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