



Industrial Cooperation in the framework of the Global Network on Bioenergy - LAMNET

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Forum for International Cooperation on Bioenergy -
4th LAMNET Project Workshop, 28 – 30 September 2003, Guangzhou, P.R. China

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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

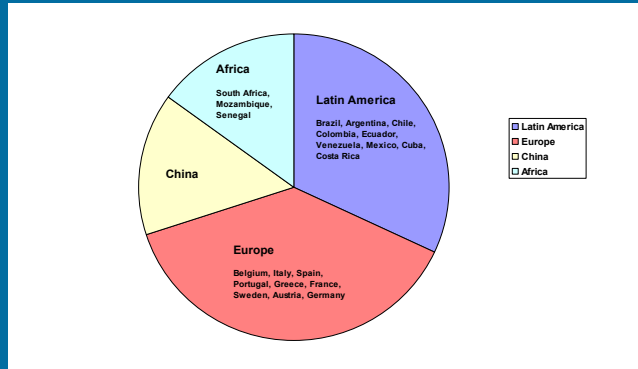
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LAMNET Membership

48 members (status September 2003)



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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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Policy Options for the Promotion of Bioenergy

- **Involvement in major international events on Renewable Energies and Sustainable Development**
 - World Summit on Sustainable Development, Johannesburg, 2002
 - Biomass Energy Workshop – World Bank Energy Week 2003
- **Networking with organisations, institutions and multilateral initiatives**
 - EU Energy Initiative for Poverty Eradication and Sust. Development
 - Global Forum on Sustainable Energy (GFSE)
 - Global Network on Energy for Sustainable Development (GNSD)
 - IEA Bioenergy; FAO
- **Monitoring/support of national and regional policy initiatives**

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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

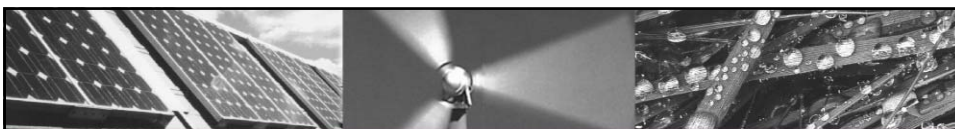
- Promotion of small- and medium-scale decentralised bioenergy systems
 - Advanced pelletising technologies
 - Micro-turbines for co-generation
 - Micro-distilleries for ethanol production,
 - Charcoal production from residues
 - Efficient biomass cooking stoves



Pelletiser machine, Italy

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International Cooperation – South Africa

White Paper on the Promotion of Renewable Energy (Aug. 2002)

10-year Target for Renewable Energy

- Additional 10.000 GWh RE contribution to energy consumption by 2012
- Biomass, wind, solar and SHP
- Capacity: 4.000 MW
- Total Investment: 4-6 billion US\$

Starting Point: 'Early-win' Investments

- Biomass based co-generation
- Solar water heating, Wind

LAMNET Partner: Illovo Sugar Ltd.



Sezela Sugar Mill
Source: Illovo Sugar Ltd., South Africa

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International Cooperation – Cuba

Energy Development Program – Cuban Ministry of Sugar

Medium-term Target

- Co-generation of electricity covers sugar sector demand

Long-term Target

- Electricity sales to the national grid

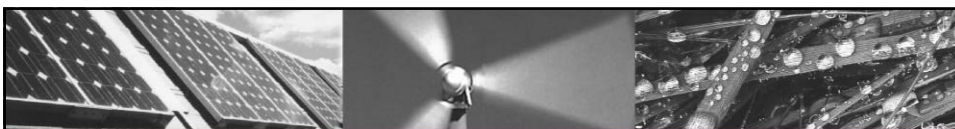
Strategic Components

- Increase of energy efficiency in the sugar sector
- Increase of energy production (new technologies)
 - High pressure steam turbines (CEST)
 - Biomass Integrated Gasification Combined Cycle (BIGCC)
- Installation of new power plants fuelled by sugar cane

**LAMNET Partners: Cuban Ministry of Sugar (MINAZ),
Centre for World Economy Studies (CIEM)**

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International Cooperation – Colombia

National Alcohol Program for Colombian Gasolines

New law (2001) mandating the blend of bioethanol (10% volume) with gasoline and diesel fuel by 2006

- Increase in harvested sugar cane: 150.000 ha
- Construction of 9 bio-refineries (each 200.000 – 250.000 l/day)
- Employment Impact: Creation of 170.000 new jobs

Financing Options:

- Invitation to private investors (national and international) to participate in the production of fuel ethanol in an open market
 - Investment: 400 million US\$; Tax exemption for bio-ethanol
 - Discount Cash Flow Rate of Return (DCFROR): > 20%; CER's through CDM

LAMNET Partner: CORPODIB



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International Cooperation – Brazil

PROINFA – Program to Foster Alternative Sources of Electric Power

Phase 1 (until December 2006)

- Electrobras is committed to sign electricity purchase contracts for construction of 3.300 MW from Wind, SHP and Biomass

Phase 2 (2006 – 2019)

- Subsidies assured to producers of electric power from alternative sources until a 10% share of total consumption is reached (Biomass: 6.518 MW; 40 TWh/a), PROINFA Total Investment: 8,1 billion US\$

Opportunities for foreign investors:

Construction and operation of RE power generation plants

LAMNET Partners: CENBIO, Copersucar, UNICA



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International Cooperation – China

Opportunities for Industrial Cooperation Activities, Technology Transfer and Joint-Ventures in partnership with the European Biomass Industry Association (EUBIA)

Biomass Technology Applications

- Gasification technologies
- Power co-generation (gasifier-engine generators, small steam-engine generators, micro-turbines)
- Pelletizing technologies
- Micro-distilleries for ethanol production
- Biomass fast pyrolysis
- Waste and waste-water treatment



LAMNET Partners: CAREI, CREIA, Beijing Green Energy Institute, Shenyang Agricultural University, CEEP, Ministry of Science and Technology

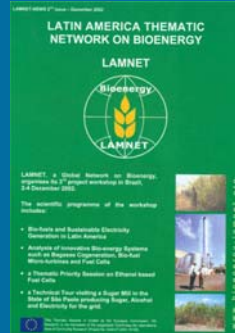
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LAMNET Dissemination Activities

- LAMNET Project Web site: www.bioenergy-lamnet.org
- LAMNET Project Newsletter (2 issues per year)
- Bioenergy Thematic Leaflets
 - Modern Bioenergy Village Complex
 - Refined Bio-Fuels – Pellets and Briquettes
 - Micro-distillery for Decentralised Bio-ethanol Production
- Organisation of LAMNET Project Workshops
 - In 2002: The Netherlands, South Africa, Brazil
 - In 2003: Mexico, China, Cuba
 - In 2004: Italy, Brazil, Chile, China



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LAMNET Associate Membership

The Associate Membership

- facilitates the involvement of other interested organisations

Associate Members

- will be regularly informed about events and activities of the LAMNET project
- are invited to make use of the dissemination platforms established in the framework of the LAMNET project

Within the LAMNET project no budget can be allocated to Associate Members.


 Latin America Thematic Network on Bioenergy -
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ASSOCIATE MEMBER

APPLICATION FORM

Family Name _____
 First Name _____
 Form/Organisation _____
 Address _____
 Postal Code and City _____
 Country _____
 Tel _____
 Fax _____
 eMail _____
 URL _____

Associate Members of the Latin America Thematic Network on Bioenergy will be regularly informed about events and activities of the LAMNET project.

Associate Members of LAMNET are invited to make use of the dissemination platforms established in the framework of the LAMNET project. Within the LAMNET project no budget can be allocated to Associate Members.

Signature _____ Date _____

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