



UNIVERSITÄT PADERBORN
Die Universität der Informationsgesellschaft

VALENTIN
SOFTWARE



International Conference RIO 12 Latin-American Renewable Energy Fair

17th to 19th of January 2012
Casa de los Tres Mundos, Granada, Nicaragua

17th of January 2012

Time	Activity	Responsible
8:00-8:45	Registration of participants	CNU
8:45-9:00	Opening of exhibition LAREF	Representatives of Nicaraguan and German government
9:00-9:10	National Hymn of Nicaragua National Hymn of Germany	
9:10-9:15	Opening remarks of representative of Nicaraguan Universities	Dr. Telémaco Talavera Siles, CNU President/ Rector UNA
9:15-9:20	Remarks by representatives of German Universities	Prof. Dr. Uwe Tröger, Berlin University of Technology, Germany
9:20-9:30	Remarks by representatives of German Government	Dr. Betina Kern, Ambassador of Germany in Nicaragua
9:30-9:35	Remarks by Representative of Nicaragua Private Enterprise Aguerri	Mr. José Adán Aguerri, President of COSEP
9:35-9:40	Remarks by representatives of Nicaraguan Government	
9:40-10:00	sustainable energy supply: The challenge of the century	Prof. Dr. Stefan Krauter, University of Paderborn, Germany
10:00-10:30	National Human Development Plan for Nicaragua	Dr. Paul Oquist, Minister Secretary for National Policies of Nicaragua
10:30-10:45	Questions and answers	Coordinator Virginia Moncada, UNI
10:45-11:15	Coffee break	

Time	Activity	Responsible
11:15-11:45	Presentation of the government program to change the energy mix by 2017	Eng. Emilio Rappaccioli, Minister of Mines and Energy of Nicaragua
11:45-12:15	Renewable energy as a source of new jobs	General Álvaro Baltodano, Director of Zona Franca
12:15-12:45	Nicaraguan universities role in the development of renewable energy	Dr. Leonel Plazaola, Chairman of Nicaraguan Universities
12:45-01:15	Questions and Answers	Coordinator Prof. René Miranda, UNAN-Managua
01:15-02:15	Lunch	
02:15-02:35	Projects for wind energy: Planning, Logistics and Training	Dr. Norma Rodríguez, Progressive Engineering P.E Concepts, Germany
02:35-03:05	Efficient use of geothermal energy	Prof. Dr. Uwe Tröger, Berlin University of Technology, Germany
03:05-03:35	Modification of the grid system for the use of renewable energies	Prof. Dr. Ingo Stadler, University of Applied Sciences in Cologne, Germany
03:35-04:05	Planning, simulation and yield calculation of solar power plants	Dr. Gerhard Valentin, Valentin Software, Berlin, Germany
04:05-04:35	Questions and answers	Coordinator Dr. Freddy Alemán, UNA
04:35-07:00	Optional: Visit of 30 kW grid-feed PV	Ecami, Managua

18th of January 2012

Time	Activity	Responsible
8:30-9:00	SIMERNIC: An integrated information system for monitoring and evaluation of renewable energy systems in Nicaragua	Eng. Marlyng Buitrago, Renovabeles Association President, Nicaragua
09:00-09:30	Interconnection of PV systems in diesel powered electrical micro-grids in the tropics	Eng. Ronald Stephan, Rio Solar, Brazil
09:30-10:00	The fundamental role of solar energy in the future of countries in the "sun belt" Mini & micro grids for a complete power supply	Jean Jacques Sylvain, Green Energy Solutions, Haiti; Willi Ernst, Centrosolar Group, Germany

Time	Activity	Responsible
10:00-10:30	Micro financing for renewable projects	Sebastian Groh, Microenergy systems
10:30-11:00	Questions and answers	Coordinator Ing. Lilliam Lezama, UNA
11:00-11:30	Coffee Break	
11:30-12:00	Financing and development of renewable energy projects in rural areas in Central America	Dr. Salvador Rivas, Sistema Integrado de América Central (SICA), El Salvador
12:00-12:30	Energy savings and energy efficiency in buildings: energy efficient cooling and climatization systems	Eng. Marco Schmidt, Berlin University of Technology, Institute of Architecture, Germany
12:30-12:45	Questions and answers	
12:45-01:45	Lunch	
01:45-02:15	Experience with domiciliary solar systems	Eng. Yilber Sequeira, APRODIM-San Marcos
02:15-02:40	Experiences of renewable energy for community development	Eng. Jaime Muñoz, ASOFENIX, Boaco
02:45-03:00	Questions and answers	
03:00-03:30	Sustainable Eco-Hotels: Experiences for Energy (PV), Water, Food, Housing	Mrs. Roslyn Winstanley, Totoco Eco-Lodge, Ometepe, Nicaragua
03:30-04:00	Sustainable Eco-Farming: Experiences for Coffee, Livestock, Energy (Hydro, Biogas)	Mrs. Mausí Kühn, Selva Negra, Matagalpa, Nicaragua
04:00-04:20	Presentation of ECAMI company, Tecnosol	(10 min each)
04:20-04:50	Perspectives for solar energy applications in Nicaragua	Prof. Dr. Stefan Krauter, University of Paderborn, Germany
04:50-05:10	Questions	Ing. Jorge Cisne, UNAN-León
05:10-05:30	Closing Ceremony	Dr. Telémaco Talavera Siles, CNU President/ Rector UNA
05:30-06:30	Cultural Presentation, City of Granada Cocktail	

19th of January 2012

Visits to Renewable Energy Projects

Tour 1: Visit Teustepe: Solar- and Hydro-power projects

Responsibles: Prof. Yader Barreda UNA and Prof. René UNAN-Managua

1.1 Introduction

Renewable energy projects have favorable effects on rural families in developing countries; in community life, solar energy projects are helping to improve economical and environmental issues. In isolated rural communities energy sustainability is very poor due to high costs for energy transportation from the national electrical grid, but the use of natural resources is a vital alternative to meet the needs of inhabitants.

The projects to be visited are positive examples of the use of local natural resources to supply the energy demand of the inhabitants of rural communities remote to the electricity grid.

1.2 Objectives

- Visit of renewable energy projects with a focus on rural development
- Interacting with the consumers of renewable energy in rural communities

1.3 Program

Time	Activity	Responsible
07:30 – 09:00	Bus trip from Granada to Teustepe	Ing. Yader Barreda, Lic. Rene
09:00 – 11:00	Visit Off-grid PV systems (eight energy systems and experience of consumers)	Technician of Association Fenix (ASOFENIX), Eng. Yader Barreda, Prof. Rene
11:00 – 12:00	Visit of small hydroelectric power plant (Rio Malacatoya, power: 13 kW, consumers: 30 families)	Technician of Association Fenix (ASOFENIX), Eng. Yader Barreda, Prof. Rene
12:00 – 01:00	Lunch	
01:00 – 03:00	Visit Water System Project with Solar Pump (Community Sonzapote, 1.5 kW power consumers: 70 families)	Technician of Association Fenix (ASOFENIX), Eng. Yader Barreda, Prof. Rene
03:00 – 04:30	Return to Granada	Yader Barreda, Prof. Rene

1.4 Observation:

The different projects for Tour 1 require approximately three kilometers of walking: please wear comfortable clothing to walk in mountainous terrain, bring water and lunch. Those who do not take lunch can buy local tilapia (fish) in the community for a value of C\$ 80.00 (Cordobas), ca. US\$ 3.50.

During the tour, a translation service is available and the technical team (Prof. Yader Barreda - National Agriculture University, Prof. René - UNAN-Managua, Technician of Fenix ASOFENIX) will be present to answer all questions about Renewable Energies in Nicaragua.

Tour 2: Visit of renewable energy projects as Geothermal power plant San Jacinto Tizate, Casa Solar and Botanical Garden

Responsible:

National University of Leon - UNAN – León

Company ENICALSA

Company POLARIS




2.1 Introduction

Renewable energies have great social and environmental impact on all projects to be visited on this route. They range from large projects such as San Jacinto Tizate (Geothermal Project) to education such as master's project in renewable energy and the environment UNAN - Leon, real estate development with sustainable development as it is the ancestral home ENICALSA managed by the company, and as an alternative Botanical Garden UNAN Leon which includes an irrigation pumping system using solar energy. The department of Leon is one of the departments most developed in renewable energies. This includes the first geothermal plant being exploited in Nicaragua, as well as two exploration projects. Besides having great potential obtaining solar power generation the solar irradiance is higher than 1000 W/m². The projects to be visited, are an example of exploitation of local natural resources to supply the energy demand both national and locally of sites and/ or projects. Both projects to be visited interact with developers of large projects such as geothermal and small projects such as solar home systems and show the experience in organization and in the rational use of energy provided by renewable sources. The program of visits to the projects mentioned above includes simultaneous translation in Spanish - English or German.

2.2 Objectives

- Visit different renewable energy projects in the department of León
- Interact with developers large and small scale projects with different approaches
- To know the experience of both executors and beneficiaries of the projects

2.3 Programme

Time	Objective	Responsible/ Foto
7:00 am	Bus trip Granada to San Jacinto-León	UNAN-León
10:00 am	<p>Geothermal Plant Tour San Jacinto – Tizate</p> <p>Capacity of production 70 MW_e (under construction)</p> <p>Actual running capacity: 10 MW_e, Potencial of the place: 245 MW_e</p> <p>(It requires long-sleeved shirt, hat and boots and shoes suitable for this visit)</p>	  <p>UNAN-León</p>
12:30 pm	Lunch Restaurant Quiero Mas (Buffet)	Lunch costs are by your own
2:00 pm	Laboratory facilities and renewable energy and environmental demonstration projects of UNAN – León (laboratory of PV, solar-thermal, wind, biomass and fuel cells)	  <p>UNAN-León</p>

Tour 3: Visit of Power Generation projects based on renewable sources in the Nicaraguan Pacific area (Department Rivas)

Coordination: Universidad Nacional de Ingeniería (UNI)


3.1 Introduction


Power generation based on alternative and renewable resources presents a range of enterprises of various sizes, degrees of penetration, efficiencies and environmental impact. On the tour 3 we visit three different projects that show the variety in this question. Initially the first project is a visit of a pig farm: this is an example of power generation based on biomass, developed in the industrial sector. A high added value which can be seen in the degree of replicability and utility of the project, which will be taken as a reference with positive impact on the development of this business. Second visit is the power plant based on wind energy: AMAYA produces approximately 63MW (La Prensa). The Nicaraguan project is the largest in Central America based on wind energy. Finally we will visit a smaller community project, an irrigation project based on wind power, initially designed for a hospice, but now used for various productive activities in the community.

3.2 Objectives

- Provide an overview of the potential of renewable sources (wind and biomass) in Nicaragua, specifically in the Nicaraguan Pacific coast (department Rivas).
- Provide relevant information on various ventures (with varying degrees of: scope and penetration, and various uses and impacts for Nicaraguan society) developed in the Pacific region of Nicaragua, through the interaction with technicians and users of the different ventures of power generation.

3.3 Program

Time	Objective	Responsible
06:30 – 07:15	Bus trip from Managua to Granada	 UNI Virginia Moncada and Günther Klatte
07:15 – 08:00	Continue trip from Granada to Swine Experimental Farm in Rivas	
08:00 – 09:00	Technical visit to the Pig Farm	

<p>09:00 – 09:40</p> <p>09:40 – 11:00</p>	<p>Journey to the Project Amayo (Km128 Panamericana Sur)</p> <p>Technical visit to the Project Amayo</p>	 <p>UNI Virginia Moncada and Günther Klätte</p>
<p>11:00 – 01:30</p>	<p>Lunch at Rivas (Príncipe) CS150.00/person</p>	
<p>01:30 – 02:00</p> <p>02:00 – 02:40</p>	<p>Journey to the irrigation project based on wind Energy in San Jorge.</p> <p>Visit of the Irrigation Project NPH</p>	<p>UNI Virginia Moncada Günther Klätte Jerónimo Zeas</p>
<p>02:40 – 04:40</p>	<p>Return from San Jorge (Rivas) to Granada and Managua</p>	<p>UNI Virginia Moncada Günther Klätte Jerónimo Zeas</p>

3.4 Observations

Note that it is forbidden to smoke at the visited sites. We also inform you that on the pig farm you have to change your footwear, boots will be provided on-site.