

IV INTERNATIONAL COURSE OF SPECIALIZATION



IN RENEWABLE ENERGIES

FOR RURAL ELECTRIFICATION

MICRO HYDROPOWER
August 06 to 14, 2007

SMALL WIND POWER
August 16 to 18, 2007

PHOTOVOLTAIC SYSTEMS
August 20 to 23, 2007



Organization:



Supported by:



UNIVERSITAT POLITÈCNICA
DE CATALUNYA



Green Empowerment
• social justice • local leadership • sustainability



Ajuntament de Barcelona

Location:

Appropriate Technology Demonstration and Training Center - CEDECAP
Cajamarca- Peru

"Technology...is just half the story"

IV COURSE INFO

- 1. Course Objective:** This bilingual, hands-on course is geared to develop participant's skills in evaluation, design, installation, and management of isolated systems of electric generation from renewable energy. The course promotes an interchange of experiences to strengthen the institutional and professional links in the field of renewable energy. Finally, to build a critical mass in relation to the promotion of renewable energy as an alternative to rural electrification and sustainable human development. Simultaneous translation makes this course open to all English and Spanish-speaking students and professionals.



2. Dates and course content:



Microhydro Module (9 days duration)

: August 6-14, 2007

- The context of hydropower in the world and its advantages and disadvantages
- Characteristics of each component of a Micro Hydropower (MHP) system.
- Tools to design a MHP system
- Principle causes of failure of MHP
- Community management of MHP
- Debates on MHP topics
- Lessons learned from 40 MHP installed by Soluciones Practicas

Small Wind Power Module (3 days duration)

: August 16-18, 2007

- The context of wind power in the world and its advantages and disadvantages
- How to evaluate the wind resource
- Components of small scale wind power systems
- Tools to design wind systems
- The process of manufacturing the low power wind turbines
- Principle causes of failure of wind systems
- Community management for isolated wind systems
- Current debates in wind power
- Lessons learned from real life wind projects

Photovoltaic Systems Module (4 days duration)

: August 20-23, 2007

- The context of solar PV power in the world and its advantages and disadvantages
- How to evaluate the solar resource
- Components of solar power systems
- Tools to design solar systems
- The process of manufacturing the solar PV panels
- Principle causes of failure of solar systems
- Community management for solar power systems
- Current debates in solar power
- Lessons learned from real life solar projects

- 3. Location:** CEDECAP (Appropriate Technology Demonstration and Training Center) 5 km from Cajamarca (Perú).

CEDECAP, Soluciones Practica's training center (pictured above) is located in the beautiful Andes of Northern Peru. The training center is fully equipped with micro-hydro turbines and test equipment and a small wind power system.



4. Tuition includes:

- Instruction: international consultants, expert instructors, specialists in Microhydro, Wind and PV coming from different countries in Latin America and the US.
- Course material (print and digital).



- Hotel in downtown Cajamarca for the duration of the course.
- Meals for the duration of the course (breakfast, lunch and snacks)
- Daily transportation from the central city of Cajamarca to the Training Center and back.
- Flights to Cajamarca are not included in the price. Participants are responsible for arranging international flight. We can arrange domestic airfare, from Lima to Cajamarca, for reimbursement since it is difficult to purchase these tickets from abroad. Since most flights from the US to Lima arrive late at night, and flights to Cajamarca would leave the next morning, we can also reserve a hotel in Lima and arrange airport pickup.

5. Organizational Experience:

In 2006, Green Empowerment, Soluciones Practicas and the Municipality of Chirinos worked together to design and install solar and micro-hydro projects in 10 villages, benefiting 2,532 people. In 2005 and 2006 the two organizations taught a 2-week intensive international training course on Solar PV and Micro-Hydro at the CEDECAP training center in Cajamarca, Peru. Both institutions are undertaking a study of supply, demand and the productive use for energy in this province of Peru. Additionally, this year, we are installing 20 wind systems and one micro-hydro to provide electricity to two hundred people in Cajamarca, Peru.

Soluciones Practicas, formally ITDG – the Intermediate Technology Development Group (www.itdg.org.pe) – aims to demonstrate and advocate the sustainable use of technology to reduce poverty in developing countries. Founded in 1966, ITDG has a commitment to poverty reduction, environmental conservation and technology choice. ITDG’s Latin American regional office in Peru was established in Peru in 1985. Since then, ITDG has installed 40 micro-hydro systems and trained communities and small businesses in operation and maintenance. Moreover ITDG has worked in environmental conservation and education to ensure sustainable development.

It has offices in seven Peruvian regions, and a staff of approximately 100, including the executive, administrative, professional, technical, and support staff. In particular, in renewable energy and rural electrification, ITDG has a very experienced staff that has developed projects throughout Latin America in countries such as Ecuador, Bolivia, Nicaragua, Panama, Mexico, and Guatemala.

Green Empowerment (GE) develops lasting partnerships with local NGOs in developing countries to build sustainable capacity for renewable energy and water systems. GE has been instrumental in establishing community-owned and operated renewable energy and water projects in Nicaragua, Guatemala, Malaysia, Ecuador, Peru, the Philippines, Thailand and Burma. GE’s work also includes watershed protection and restoration work, including the establishment of a community-owned Forest Reserve of more than 1200 acres of rainforest in Nicaragua. GE’s work emphasizes extensive training and capacity-building for our NGO partners and the members of these rural communities