Renewable Energy Education Network: The International Institute for Renewable Energy (IIRE)

Introduction

Naresuan University has entered an agreement for the establishment of the International Institute for Renewable Energy (IIRE) in cooperation with the following universities:
Curtin University of Technology (Australia),
University of New Brunswick (Canada),
Yunnan Normal University (China),
Claude Bernard Lyon University (France),
Kassel University (German),
Tokyo University of Agriculture (Japan), and
Tribhuvan University (Nepal).
IIRE is located at the Research and Training Building, Energy Park, Solar Energy Research and Training Center, Naresuan University.

IIRE is a non-profit making, international institute that is concerned primarily with the promotion of research and development, testing and demonstration of renewable energy technologies and the diffusion of knowledge and information gained as widely as possible. IIRE will facilitate research cooperation among institutions, arrange training to enhance competence, and organize meetings to increase awareness, thus contributing to the development and promotion of renewable energy.

IIRE will continue to seek collaboration with international organizations and sponsors for joint activities, ranging from research and development through to the training of technicians and information dissemination.

The mission of IIRE is to be an effective center for the generation and sharing of information relating to renewable energy and for the development of the human resources required to successfully promote its use through the provision of training, the facilitation of international cooperation.

IIRE is organized into three departments; the Secretariat Office, International Cooperation Office, and Renewable Energy Information Center. Each department is sub-divided into sections according to their respective functions *(Fig. 1)*.

The sections and functions of the Secretariat Office consist of Administration, Human Resource, Finance & Accounting, Public Relations, and Meeting & Seminar.

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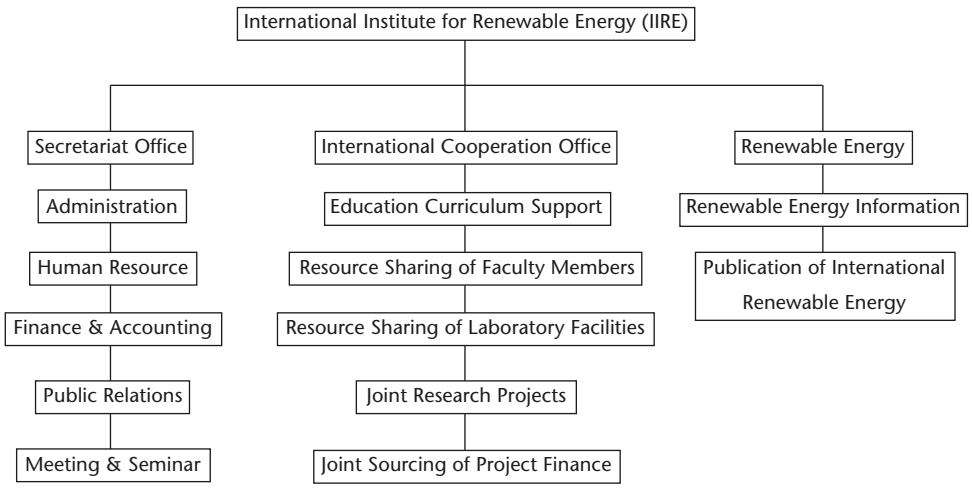

Figure 1
Functions and Organization of IIRE

The sections and functions of the International Cooperation Office consist of Education Curriculum Support, Resource Sharing of Faculty Members, Sharing of Laboratory Facilities, Joint Research Projects, and Joint Sourcing of Project Finance.

The sections and functions of the Renewable Energy Information Center consist of the Renewable Energy Information Service and publication of the International Renewable Energy Journal.

Research, education and training for the global

IIRE aims to be an excellent institute for the research and development of renewable energy technology such as solar thermal, PV, solar hydrogen, biomass and energy economics. With high quality research, it aims to solve any potential energy crisis in the future in this country and the world.

To conduct the Doctor of Philosophy on Renewable Energy to enable the development of human resources in the field of renewable energy through study and research in order to advance knowledge for efficient utilization of renewable energy at the local, national and international level. Our goal is to develop professional personnel in the fields of renewable energy, energy conservation, energy management and environment conservation. Our program promotes research work in renewable energy in order to keep pace with current advances in technology and new innovations in the academic field.

Renewable Energy Training Program

The main renewable energy application areas are wide rural regions. Most people there are poor and have low education. They need to be trained to use the renewable energy. Our experiments let us know that the suitable knowledge and technology are important to the popularization of renewable energy application. Developed countries can support the expertise for Mekong Region to hold the different level training classes in each developing country, various training programs as follows:

- Rural Energy Camp
- Solar Dryer System Use
- Renewable Energy Database Management
- Technology and Solar Energy Applications
- Biogas from Animal Dung
- Photovoltaic System for Remote Area
- Roof-top grid Connected

Standard Testing for Renewable System for the Mekong Region

The production of electricity from photovoltaic system needs a proper design for its efficient and continuous operation. The standard testing of photovoltaic module and balance of system (BOS) is very important for sustainable implementation of the photovoltaic system. Mekong countries do not have professional people who can do the standard testing of the photovoltaic system. We realized the importance of conducting a training course for standard testing of photovoltaic module and BOS to related government technical staff for meeting the standard of international standard testing. The training course is aimed for developing reliable photovoltaic system that will be suitable and beneficial for rural community in the region.

Strengths, expanded and financed

IIRE have to survive by financial support from the following sources

- University budget
- Government budget
- Benefit from business
- Donation budget
- Subsidy from other sources:

1) Domestic Fund

- NEPO: National Energy Policy Office
- NRCT: National Research Council of Thailand
- TRF: Thailand Research Fund
- NSTDA: Thailand's National Science and Technology Development Agency

2) International Fund

- ADB: Asian Development Bank
- ADEME: Agence de l'Environnement et de la Maîtrise de l'Energie
- AERECA: Asia Europe Renewable Energy Consortium Agency
- APEC: Asia Pacific Economic Cooperation
- AREDO: Asia Renewable Energy Development Organization
- ASEAN: Associate South East Asia Nation
- AusAID: Australian Agency for International Development
- CIDA: Canadian International Development Agency
- CORE: Council on Renewable Energy in the Mekong Region
- CRESTA: Center for Renewable Energy Systems Technology Australia
- DFG: Deutsche Forschungsgemeinschaft
- DLR: Germany Aerospace Center
- EC: European Commission
- ESCAP: Economic and Social Commission for Asia and the Pacific
- Fraunhofer ISE: Institut Solare Energiesysteme
- GEF: Global Environment Facility
- GTZ: Deutsche Gesellschaft für Technische Zusammenarbeit
- IEA: International Energy Agency
- InWEnt: Internationale Weiterbildung und Entwicklung gGmbH
- ISET: Institut für Solare Energieversorgungstechnik e.v.
- JICA: Japan International Cooperation Agency
- NEDO. New Energy and Industrial Technology Development Organization (Japan)
- NREL: National Renewable Energy Laboratory (USA)
- PSA: Plataforma Solar de Almeria
- RARC: Robotic Agriculture Research Center
- RBF: Rockefeller Brothers Fund
- UN: The United Nations Organization
- UNDP: United Nations Development Programme
- UNEP: United Nations Environment Programme
- UNESCO: United Nations Educational Scientific and Cultural Organization
- USAID: U.S. Agency for International Development
- WB: World Bank

The strength of the International Institute for Renewable Energy (IIRE) is the network which contains of various countries including developed and developing countries as well who have the same goal to protect and respect the natural resources and the environment. Capacity building for renewable energy will foster technology transfer and human resources development.