GrIPP-Net News

A Quarterly Newsletter of the ASEM Green Independent Power Producers Network

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Editorial

Project Description

Introduction

There is a strong political will in many countries of the world to increase the use of renewable energy sources in energy supply due to growing environmental issues.

Mainly in the European Union, measures have been taken to promote renewable energy projects. Special policy actions aiming at fostering renewable energy projects have been implemented. In Asia the use of renewable energy is not so advanced as in Europe.

To transfer experiences made in the European power markets on success factors and market potentials of renewable energy projects to Southeast Asia, this project sets up a thematic network on Green IIPs (Independent Power Producers) that focuses on renewable energy projects linking researchers, industry representatives, policy makers and NGOs from Europe and Southeast Asia. Within the scope of this project a Green IPP is defined as an investor-initiated, grid-connected, non-utility power producer applying renewable energy technologies. The technologies considered within this network project are wind, biomass combustion, biomass digestion and small hydro power plants.

Objective

The objective of this Green IPP-network is to foster a market-driven development of Green IPPs. Derived from this global goal, the network will transfer knowledge and experiences on Green IPPs in Europe to Southeast Asia. An overview about Green IPPs in Asia will be generated with regard to successful project structures, innovative financing schemes and policy options to support a successful market penetration of Green IPPs.

Partners

The Green IPP core network is set up by these six institutes:

from Europe

- **IIP** (Institute of Industrial Production), Germany as coordinator;
- **ECN** (Energy research Centre of the Netherlands), Netherlands; and
- **Risoe** (Risoe National Laboratory), Denmark

from Southeast Asia

- **CEERD** (Centre for Energy Environment Resources Development), Thailand;
- **UPSL** (University of the Philippines Solar Laboratory), Philippines; and
- **ACE** (ASEAN Centre for Energy), Indonesia.

The project is coordinated by the IIP (Germany). The core network focuses on extending the network by associated partners to reach and include all relevant stakeholders in Europe and Southeast Asia. Target groups for associated partnership are project developers, private investors, banking sector representatives, plant suppliers, research entities, ministries and governmental agencies as well as non-governmental organisations (NGOs).

The six institutes of the core network team up in three thematic blocks, each block comprising one European and one Asian partner, that serve as competence centres within the network. These competence centres cover the three important topics determining the future development of Green IPPs:

- project structures and financing approaches,
- renewable energy technologies and resources, and
- policy instruments and regulation.

The intention of the joint assignment of one European and one Asian Partner to each thematic block is to ensure knowledge and experience transfer between both regions. The contents and partners of these three competence centres are described in more detailed in the succeeding pages.

The Green IPP network is present in the Internet at the address *www.ASEM-GreenIPPnetwork.net*, where you can also subscribe for the quarterly newsletter of the project and find further information on the network.

The network project is carried out under the European Commission Fifth Framework Programme. The project started in February 2002 and will be completed by January 2004.

Workshop

A first workshop, organised by the Green IPP network, will take place on the 24th and 25th of October in Bangkok, Thailand, where an overview of the current stage of the renewable energy sources in Southeast Asia will be given. Discussions on different market conditions in these countries and their impact on project development will be encouraged. Target groups of this workshop are regional policy makers interested in sustainable energy supply structures as well as regional and foreign investors seeking new investment opportunities in the renewable energy business. To register for this workshop please visit our website (*www.ASEM-GreenIPPnetwork.net*) or e-mail to *t.lefevre@ceerd.net* or *Dominik.Moest@wiwi.uni-karlsruhe.de.*

Three further workshops will be organised by the Green IPP network dealing with different subjects in the Green power business. Detailed information about these workshops and the contents will be presented at a later date in this newsletter and at the website.

Inside

The *GrIPP Net Newsletter*, the official publication of the Green IPP Network, is published quarterly to communicate network activities and to support the dissemination of relevant information and network results. It is provided free to network members and interested stakeholders, and can be downloaded from this site: www.ASEM-GreenIPPnetwork.net.
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GrIPP-Net Project

Competence Centre 1

Project Structures and Financing Approaches

The objective of the competence centre "project structures and financing approaches" is to collect and condense all available knowledge of renewable energy projects in Europe and their success factors derived from several research projects on Green IPPs including the accumulated experiences of leading industrial players. The dependence of project success on alternative project structures and financing schemes in European renewable energy projects will be evaluated. Financing renewable energy projects in a proper way may represent a success factor of similar importance like an adequate technical plant layout.

The competence centre also focuses on innovative supra-national project approaches. First, existing projects under the CDM umbrella and/or emission trading schemes will be evaluated and their applicability to Southeast Asian energy markets will be discussed. Compiling and evaluating experiences from existing renewable energy projects in Southeast Asia will build an important experience basis for future project development activities in Southeast Asia and will be considered within this thematic block.

The main results of this competence centre will be a structured set of project models combined with new insights on their corresponding advantages and disadvantages derived from project experiences in Europe and Southeast Asia. So this centre will give, for example, an overview about different legal forms, financing schemes, capital sources, assurances, and model contracts.

IIP and CEERD are the two partners working on this competence centre. IIP focuses on Europe, while CEERD does the same for Southeast Asia.

About IIP (Co-ordinator of the Green IPP network project)

UNIVERSITÄT KARLSRUHE (TH)

The **Institute for Industrial Production (IIP)** was formed in 1982 as an off-shoot of the Institute for Production Engineering and Labour Science and the Techno-Economy Project Group of the University of Karlsruhe (TH). Research includes primarily the techno-economic analysis and evaluation of emission reduction technologies, the development of regional/national emission reduction strategies as well as the techno-economic evaluation of production integrated waste treatment concepts. The working group "Energy Systems and Environment" of IIP focuses on systems analysis of energy problems, energy models, integration of renewables in energy supply and energy utility planning. Furthermore, the development of a efficient green power business is a central field of research of this working group. Studies are carried out on behalf of the Economic Commission for Europe, the European Union, the Federal Ministry of Research and Technology, the Federal Environmental Agency (UBA), the State of Baden-Württemberg and industry. The interdisciplinary method of solving technical and economic problems is characteristic of the Institute. Since 1986 the Institute is also involved in the building-up of a French-German Institute for Environmental Research which took up its activities in 1990.

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About CEERD (Centre for Energy Environment Resources Development)

CEERD
Centre for Energy Environment Resources Development

The **Centre for Energy Environment Resources Development (CEERD)** is an organisation that has two primary activities. CEERD aims to strengthen the capacity of national governments in Asia and the Pacific in energy-environment planning and policy formulation by conducting training and research activities. It also provides information and knowledge on current issues and developments in energy-environment affecting the Asia and Pacific region by conducting consultancy projects sponsored by international and national agencies and even the private sector. Ultimately, CEERD aims to be a premier observatory of Asia-Pacific energy systems and energy policies.

In the last 10 years, CEERD has conducted projects in the ASEAN region, particularly in Malaysia, Thailand, the Philippines and Vietnam, especifically on power and renewable energy studies. In the field of renewable energy, the centre has participated in the preparation of the reports of Thailand's renewable energy sector, particularly the "Thailand National Renewable Energy Potential and Development Study" and the "Investigation of Pricing Incentives in Renewable Energy Strategy for Thailand."

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Competence Centre 2

Renewable Energy Technologies and Resources

The objective of this competence centre is to analyse the scope for Green IPPs in Southeast Asia from a technological point of view, focusing partly on renewable energy technologies and partly on resource potentials. Data will be compiled on existing renewable energy technologies and plant designs in Europe and Southeast Asia and suitable future designs identified for Southeast Asia. In addition, an evaluation is carried out of Southeast Asia's potential resources for renewable energy supply with special emphasis on applicability for independent power generation and covering both energy and human resources. Both data compilations and resource assessments are to be based on existing studies. A key issue in this connection is the transferability of experiences between the European and Southeast Asian regions, given the differences with regard to topics such as climate, availability of qualified maintenance staff and the relation to the electric grid (grid-connection or stand-alone projects). A principal objective of this work is to transfer knowledge from Europeans market players and researchers to the corresponding Southeast Asian organisations and institutions.

The competence centre is envisaged to focus on wind power, biomass power and heating generation (based combustion and digestion) and small hydro plants whereas geothermal and photovoltaic power production may be added at a later stage.

This competence centre will be handled by Risoe and UPSL. Risoe is the European partner, while UPSL will coordinate the Southeast Asian contributions.

About Risøe National Laboratory

Risøe is a national laboratory under the Danish Ministry of Science, Technology and Innovation, carrying out research into science and technology. The overall objective of the research is to provide a knowledge base for promoting sustainable development within energy, industrial technology and bioproduction. Within the energy field, Risoe has an internationally leading position in wind energy research. The Systems Analysis Department of Risoe develops and applies analysis methods to improve decision-making of Danish society and international organisations on technological priorities, including a research programme on "Energy Systems Analysis." This is carried out by a multi-disciplinary team of about 10 scientists analysing economic and technical issues related to energy and environment fields, including: renewable energy; energy technology assessments; energy markets; modelling; and energy and environment policy instruments. In addition, the department includes the UNEP Collaborating Centre on Energy and Environment, funded partly by the United Nations Environmental Programme (UNEP), with the overall objective of promoting the integration of sustainable development issues in energy policy and planning, particularly in developing countries.

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About UPSL (University of the Philippines Solar Laboratory)

The **UP Solar Laboratory** is part of the University of the Philippines (UP), a state university for higher education and research. UPSL was established in 1988 through the GTZ-assisted Philippine-German Special Energy Project to institutionalise the technical, education, research, policy and market support of renewable energy (RE) in the Philippines. Research activities include primarily the adaptation and localization of renewable energy technologies to suit the Philippine situation. UPSL is a Cooperating Research Institution (CRI) of the Philippine Department of Energy (DOE). As a CRI, it has been developing and evaluating the techno-economic performance of various applications and market delivery mechanisms of renewable energy in the Philippines. UPSL also coordinates the teaching and research activities on new and renewable energy at UP's graduate program (MS and PhD) in Energy Engineering. Through its network which includes policy makers (national and local government), private sector, academic institutions, research organizations, and community-based NGOs, UPSL has been informally serving as the information hub on NRE in the Philippines. Its public awareness campaigns include national conferences, exhibits and competitions such as the televised National Energy Quiz Shows. UPSL is currently being upgraded to become the National Center for New and Renewable Energy in the Philippines.

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Competence Centre 3

Policy Instruments and Regulations

In order to stimulate renewable energy, a large variety of policy instruments have been developed and implemented all over the world. Firstly, this section will highlight interesting policy instruments implemented in Asia and Europe, and discuss the experiences with these instruments and measures.

Secondly, country specific overviews of policies and regulations in place in Southeast Asia will be presented.

Together, this information forms the background for a discussion on the transferability of policy measures to the South- East Asian markets. The objective of the discussion is to ensure knowledge and experience transfer in order to foster the design of suitable policies aiming at supporting future project development and sustainable development in the energy sector in Southeast Asia.

Analysis of stakeholders views on the discussion topics and new insights will be analysed and discussed with policy makers in the Southeast Asian region. The close involvement of regional policy makers will be ensured by the excellent contacts and close relationship of the Asian project partners with Southeast Asian policymakers. ECN is the European partner in this topic, while ACE will coordinate the Southeast Asian contributions

About ECN (Energy research Centre of the Netherlands)

*The **Energy research Centre of the Netherlands (ECN)** is* a leading institute in the Netherlands for energy and environmental research and policy advice. ECN is a private and independent organisation, employing over 900 people, and focusing its activities on the needs of the energy industry and government in their objectives, and contributes to a sustainable development of a reliable, environmentally sound and cost-effective energy sector and economy.

ECN priority areas are: Policy Studies, Solar Energy, Wind Energy, Biomass, Renewable Energy in the Built Environment, Energy Efficiency, and Clean fossil Fuels. ECN Policy Studies is the envisaged partner in the project. ECN Policy Studies has extensive experience in the research fields of energy policy, renewables, policy instrument evaluation and the liberalisation of energy markets. It employs staff of various disciplines, among which renewable energy experts. Specific research topics in the area of renewable energies include: long term cost development of renewable energy, implementation of biomass, wind and solar energy projects, and the role of renewable energies in the long term development of the energy sector.

In these long years of experience, ECN has build up extensive research contacts with key institutes in developing countries.

For more information about ECN, please write to:

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***About ACE** (ASEAN Centre for Energy)*

The **ASEAN Centre for Energy (ACE)** is an intergovernmental organization established by the Association of South East Asian Nations (ASEAN) composed of ten member countries, namely: Brunei Darussalam, Kingdom of Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. The operation of ACE is guided by the Governing Council composed of the Senior Officials on Energy Leader of the ASEAN countries and a representative from the ASEAN Secretariat. The Centre is envisioned to be a catalyst for the economic growth and development of the ASEAN region by initiating, coordinating and facilitating regional as well as joint and collective activities on energy. To realize this vision, the Centre will accelerate the integration of energy strategies within ASEAN by providing relevant information on state-of-the-art technology and expertise to ensure that over the long term, necessary energy development policies and programmes are in harmony with the economic growth and the environmental sustainability of the region. Since its establishment, ACE has been instrumental in preparing the ASEAN Plan of Action for Energy Cooperation 1999-2004, a plan that is assiduously implemented by ASEAN's specialist organizations in the field of energy, including the New and Renewable Sources of Energy Subsector Network (NRSE-SSN).

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