Project Results

The final “Study on Solar and Energy Potential and Feasibility” will be published at the project’s website by the end of the year 2006.

Interim reports are already available under:

- http://www.dgs.de/1378.0.html (Laos) and
- http://www.dgs.de/1214.0.html (Thailand)

Participation

Stakeholder Pool

To join the project’s Stakeholder Pool please register on:

www.dgs.de/1267.0.html.

PV Solar Technology Pool

To joint the PV Solar technology pool please register on:

http://www.dgs.de/1467.0.html

Biogas and Co-generation Technology Pool

To joint the Biogas and Co-generation technology pool please register on:

http://www.dgs.de/1463.0.html

Notice

This leaflet presents the results of the Asia Pro Eco project TH/Asia Pro Eco/05 (101302) funded by the European Commission. This document has been produced with the financial assistance of the European Union. The contents of this document are the sole responsibility of DGS e.V. International Solar Energy Society, German Section and can under no circumstances be regarded as reflection the position of the Europe Union.

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Study on Solar and Biomass Energy Potential and Feasibility in Laos and Thailand




www.dgs.de/asiaproeco

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Background

Rising oil prices have received much public attention in recent months. The impact of higher prices affects disproportionately developing countries in Southeast Asia constrained by their reliance on oil imports and limited budgets. On the other hand, Southeast Asian countries have abundance of two renewable energy (RE) sources – sun and biomass. Sunlight used in PV solar systems is an efficient source of electricity. Biomass from agricultural crops and livestock manure can be converted into biogas, electricity and fertilizer.

The Project

To analyse the concrete potential and demand of biomass and PV solar energy the project partners perform the European Commission funded Asia Pro Eco Project “Diagnostic Study on Renewable Energy Potential and Feasibility in Southeast Asia”. Each one “Study on Solar and Biomass Energy Potential and Feasibility” will be developed for Lao PDR and Thailand.

The Study will provide strategies, which support

- **Thailand** to achieve the 2011 aim to increase the quota of RE to 8% and
- **Laos** to achieve the 2020 aim to electrify 90 % of the country’s households

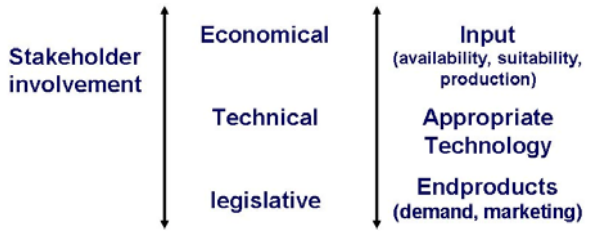
Results

Together with the RE stakeholders in both countries the project partners develop strategies for the implementation of RE solutions considering the social, economical, technical and legislative frame conditions. The final studies contain suggestions on the following topics:

- Suitable energy crops
- Cultivation and harvesting of energy corps
- Suitable PV Solar and biogas technologies
- Possibilities of solar and biomass energy for the electrification of urban and off-grid areas
- Financing tools to promote the implementation of renewable energies
- Required policy measurement for the promotion of renewable energies

As such, both the biomass and PV solar energy production chains (Input-Technology-Product) were analysed.

Strategies Development Approach



Biomass as Energy Source

The innovative approach is that not only wasted biomass is considered but especially the production of biomass as energy source. This, so called EnergyFarming is a new approach for South-East Asia. So far, only livestock manure and municipal solid waste were recognized as potential input materials for biogas plants.

Energy Crop Plantation

Each 10 potential energy crops were selected and cultivated in Laos and Thailand. Their biomass potential during the cultivation period was analysed and 5 crops were selected for further investigation.

Laboratory analysis

The biogas yields of rice, soy bean, mung bean, corn and mustard in Laos and of corn, water hyacinth, banana, papaya, and sugar cane in Thailand are analysed in 20 l lab digesters under mesophilic conditions. First results of the biogas laboratory trails will be published in August 2006 at the project’s website.