

## **Project TREE – Transfer Renewable Energy & Efficiency**

### **Facilitation of know-how transfer in renewable energies and energy efficiency for decision makers and engineers from developing and emerging countries**

#### **1. Aims of project TREE**

**TREE** stands for **T**ransfer **R**enewable **E**nergy & **E**fficiency. The objective of the TREE project is to facilitate the transfer of know-how in renewable energies (RE), energy efficiency (EE) and climate protection, for decision makers and engineers from developing and emerging countries. To promote capacity building, TREE will offer seminars in Berlin and partner countries; as a follow-up, distance-learning courses and individual assistance will be available. TREE will support both the evaluation of the potential for RE and EE, with associated strategy development for the partner countries, and the dissemination of practical planning and installation knowledge for solar technology. These measures will create the foundations for CO<sub>2</sub> reduction, greater independence from fossil fuels, the development of new industry branches and the securing of energy supply.

#### **2. Timescale and Funding**

The TREE project, run by the Renewables Academy (RENAC), begins in September 2008 and is supported by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). The first phase of the project will be undertaken in 2008 and 2009.

#### **3. Target Groups and Target Countries**

The target groups of the project include decision makers and engineers from public institutions (such as ministries, planning bodies, regulators, energy agencies) and from business sectors (for example, grid operators, financial service providers, manufacturers, project developers) and engineers in the field of solar technology.

Target countries for one-week seminars and training courses for engineers and decision makers are the countries: Brazil, South Africa, India, China, Chile, Mexico, Indonesia, Malaysia, Thailand and the Philippines. Three-day courses on solar-thermal power plants will be held locally in Jordan, South Africa, Namibia, Chile and Peru.

#### **4. The Concept**

For the successful development of renewable energies and the implementation of energy-efficiency measures, appropriate conditions and incentives must be in place and there will have to be personnel available who are qualified in, for example, the installation of solar technology. Germany has many years of expertise in the implementation of RE and EE, which can be passed on. The TREE project will promote capacity building and know-how transfer for both decision makers from politics and business, as well as technicians and engineers.

## 5. Scope

TREE will offer a graduated range of courses and include introductory seminars, advanced seminars, distance learning and individual follow-up, oriented around the strategies of the respective government partner. In addition to the theoretical aspects, including the technology, finance, marketing, sales and the business environment, the practical skills needed by the participants will also be emphasized. Practical learning will take place in the RENAC Training Center.

1. Providing 7 weekly seminars for decision makers until end of February 2009 in Berlin
2. Providing 7 weekly seminars for engineers until end of February 2009 in Berlin
3. Providing 5 seminars on solar-thermal power plants (CSP) in target countries
4. Providing 5 advanced seminars for decision makers and engineers in 2009 in Berlin; topics still to be confirmed
5. Offering on-going distance-learning courses
6. Follow-up advice

### 5.1. Seminars for decision makers in Berlin

Decision makers from politics, administration and business will gain a basic technical understanding about RE technologies and EE measures. Non-technological material will include the fundamentals of energy management, project finance, CDM project mechanisms, legal issues and incentive programs.

The following main topics will be presented and discussed:

- Fundamentals of the technologies: photovoltaics, solar thermal, solar-thermal power plants, wind power, bioenergy, geothermal power and energy efficiency in the building sector and for industry and commerce
- Instruments available for implementation: advantages and disadvantages, necessary conditions
- Costs, feasibility, funding opportunities, overview of possible incentives, details on costs and financing
- Necessary infrastructure, effort required for operation and maintenance, qualification requirements

### 5.2. Seminars for engineers in Berlin

Engineers will learn about planning, installation, operation, monitoring and maintenance of both photovoltaic systems (grid and off-grid systems) and solar-thermal plants, as well as their integration with existing conventional energy systems or with other RE technologies. In addition to the technical content, the seminars will include material on costs, economics, finance, maintenance, insurance, marketing and sales.

### Practical training in the Training Center

The Training Center allows the participating engineers to apply their knowledge through "hands-on" planning, installation, operation and monitoring of renewable energy and energy efficiency technologies. The Training Center is equipped with components for solar thermal, photovoltaics, bioenergy and heat pump as well as other professional training equipment. In addition it includes laboratory equipment for electrical engineering, energy efficiency technologies, demonstration equipment for practical experiments, simulation software for simple

testing and computer workstations for plant design, simulation, calculation and research, which may be used as part of the course work.

### **5.3. Seminars on solar-thermal power plants (CSP) in target countries**

Solar-thermal power (Concentrated Solar Power, CSP) is a power-plant technology with huge potential for sunny countries having ample direct radiation. It requires a high degree of planning and investment. A large number of experts and decision makers is involved in the planning, construction and operation of a CSP. Through a three-day seminar (1st day for decision makers, 2nd and 3rd days for engineers), the technological options, yields, business environment, cost and funding opportunities will be explained.

These compact and advanced seminars will take place in Jordan, South Africa, Namibia, Chile and Peru.

### **5.4. Providing 5 advanced seminars for decision makers and engineers in Berlin during 2009**

In 2009, five further one-week advanced seminars will be offered in Berlin. The topics explored will be determined from the main interest areas of the decision-maker seminars of 2008.

### **5.5. Further distance-learning courses**

Participants in the TREE seminars will have the opportunity to deepen their knowledge through distance-learning courses and college certification on certain topics. To this end, courses will be defined in conjunction with the distance-learning institute of the Berlin University of Applied Sciences (TFH), material prepared and then integrated into the on-line platform used for distance learning. The platform will offer the participants a unique opportunity after the course for further practical study, alongside their work. Topics for the distance-learning courses for RE and EE are:

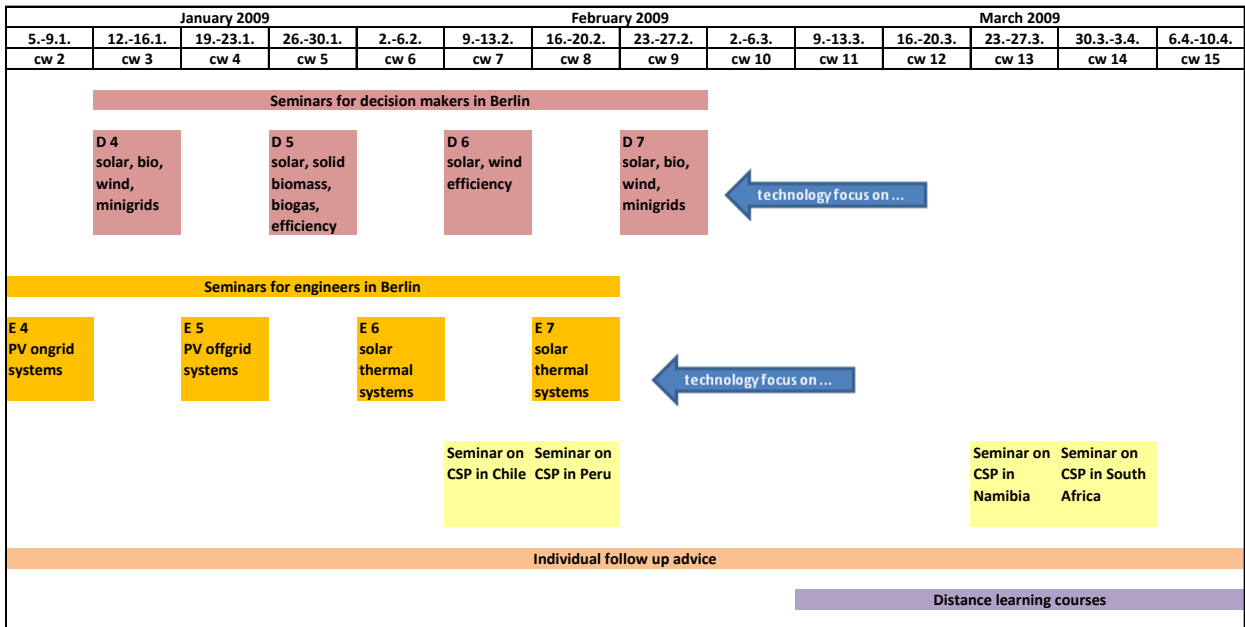
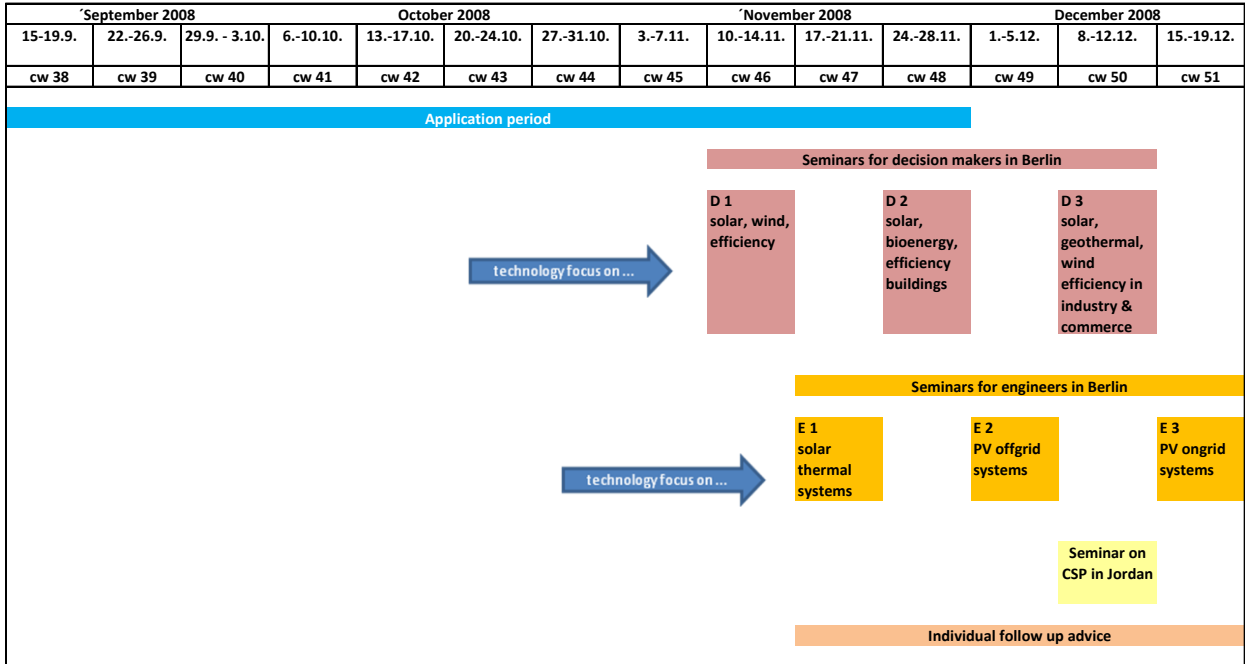
- Business environment and funding
- Marketing and market development for project management of RE and EE
- Legal issues and contractual arrangements
- Cost calculations for RE and EE
- Financing

### **5.6. Follow-up advice**

The seminar participants in TREE will have the opportunity, following the seminar, to take up advisory services in the areas of RE and EE until the end of 2009.

**TREE Time Schedule 2008 and 2009**

TREE Time Schedule



2009								
April	May	June	July	August	September	October	November	December
5 deepening trainings for engineers / decision makers, topics tbd								
Individual follow up advice								
Distance learning courses								

PV: photovoltaics

CSP: Concentrated Solar Power

## **6. Applications for the TREE scholarship program**

Those interested can apply at the Renewables Academy for a TREE seminar scholarship. Application is open to decision makers and engineers with a number of years of professional experience in politics and business, for example, from public institutions (ministries, planning bodies, regulators, research institutions), private or privately funded institutions (project developers, manufacturers, system providers, financial services, utilities, grid operators) as well as politicians and professionals.

The scholarship covers travel expenses, seminar costs and accommodation (allowance of 40€ per night for engineers) and a contribution towards expenses.

## **7. Partners**

The organization and running of the know-how transfer is done in cooperation with international institutions and experts, who have many years of expertise in the field of knowledge transfer for renewable energies and energy efficiency. Important partners are the Production Technology Center (PTC) of the Technical University of Berlin ([www.ptz-berlin.de](http://www.ptz-berlin.de)), Solarpraxis ([www.solarpraxis.de](http://www.solarpraxis.de)) and the Berlin University of Applied Sciences (Technische Fachhochschule Berlin, TFH).

## **8. The Renewables Academy (RENAC) AG**

The Renewables Academy (RENAC) provides education and training for decision makers, engineers, investors, lawyers and developers in the areas of renewable energy and energy efficiency. Its aim is to disseminate, both nationally and internationally, the outstanding German expertise in the application of renewable energies and the efficient use of energy. Through its educational offerings, RENAC aims to contribute to the building of more sustainable energy supplies. RENAC brings together expertise in the field of international know-how transfer and works with an extensive network of institutions and companies in the field of RE and EE.

### **Further Information**

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