

TREE – Transfer Renewable Energy & Efficiency – The Renewables Academy’s knowledge transfer project

Berthold Breid
Renewables Academy AG
(RENAC)
Schönhauser Allee 10-11
10119 Berlin
Germany
www.renac.de
breid@renac.de

More and more governments worldwide are setting ambitious targets for the expansion of renewable energies. The diversification of the energy mix by increasing the share of renewable energy sources is not only critical for the reduction of CO₂ emissions, but also offers an opportunity to harness new economic potential, particularly for numerous developing and emerging countries as these countries often have significant natural resources. Renewable energies offer secure energy supply and can stabilise electricity grids, even with a continuously growing energy demand. In subsidised energy markets, falling energy imports give the exchequer greater room for financial manoeuvre.

One difficulty with the practical implementation of expansion targets is that specialist knowledge is required for the successful and, above all, speedy development of the renewable energy sector.

Ministries have to develop laws and regulations, decision-makers from the private sector are in demand for the financing of equipment, the analysis of viability and the management of complex project processes, and engineers and technicians are needed for engineering design and for installation and maintenance. A lack of expertise at one of the bodies involved can quickly lead to a bottleneck in the value-added chain.

The TREE project (Transfer Renewable Energy & Efficiency) initiated by the Renewables Academy is implementing international knowledge transfer where all key participants are involved. Seminars on capacity building, which are available for various levels, provide decision-makers on policy and economic matters from developing countries, emerging countries and transition

countries with the expertise necessary to implement renewable energy technologies in a fast and sustainable manner.

Other countries should benefit from Germany’s experience in the last 20 years with the creation of suitable policy framework conditions and economic incentive mechanisms, the harnessing of financing methods, the establishment of commercial expertise and the implementation of technologies.

TREE is being supported by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) as part of the International Climate Protection Initiative, as decided by the German Bundestag. Income from the sale of CO₂ certificates for emissions trading is invested in national and international climate protection measures.

In 2008 and 2009, a total of 170 projects were initiated in developing, emerging and transition countries. TREE is one of these projects that aim to make cost-effective use of existing potential for the reduction of emissions and also to demonstrate the technological feasibility of innovative model projects for climate protection. Increasing energy efficiency, expanding renewable energies and the transfer of knowledge are all supported in a targeted manner.

RENAC offers seminar stipends for participation in TREE seminars on solar energy, wind power, bioenergy and energy efficiency technologies. The most important selection criterion is that the applicants be able to apply the knowledge they acquire in their everyday work as directly as possible and that they pass on this knowledge as widely as possible.

However, other factors such as motivation, level of qualification and English-language skills also play a role.

In order to teach the principles of clean energy supply in the long term, the educational concept behind TREE is structured in a multi-dimensional manner. With the one-week introductory seminars in Berlin, every target group can learn about the technology aspects relevant to them: After an introduction to technology issues, decision-makers on policy and economic issues can learn more about the structuring of framework conditions, about project financing and management, and about economic viability, market entry, legal and insurance matters related to renewable energies. For engineers, the focus is on planning, installation, maintenance and quality management for equipment. Individual issues can be dealt with in more detail in later specialised seminars that build on the introductory seminars. Certain courses are also conducted in the target countries.

These seminars are then followed by an e-learning phase. In cooperation with the Beuth University of Applied Sciences in Berlin, RENAC has set up an online learning portal that participants can use to complete specialised seminars. In addition, participants can also use the online advice facilities to obtain suggestions and tips from lecturers on practical projects. Further services are also available in addition to the learning services – e.g. a series of publications for ministry staff regarding legal aspects of renewable energies or a mobile exhibition that offers a closer look at various technologies.

TREE was started in November 2008. In the first year, the 560 participants in total came from 14 countries in South America, Africa and Asia. This year, the states that have signed the IRENA (International Renewable Energy Agency) statute and those from the MENA region can also participate, i.e. a total of almost 100 countries.

The thematic focus this year is the training of project developers from industry and private sector service-providers, as the economic strength of a given country is increased when the prerequisites for investments are created



Participants in the courses for decision-makers familiarise themselves with requirements as regards policy framework legislation.



The RENAC training centre has a wide range of equipment from the areas of solar thermal energy, photovoltaics, wind power and energy efficiency for practical exercises.



Practical installation can also be practised in the photovoltaics courses.

and new areas of activity in energy efficiency and renewable energies are established. Since suitable policy framework conditions are the prerequisite for this, there is also a focus on courses for decision-makers on policy and representatives from specialist committees in the legislature area.

The training offered as part of TREE supports participants in expanding capacities in their own participating countries. The crucial element here is not only the transfer of knowledge, but also the initiation of international dialogue.

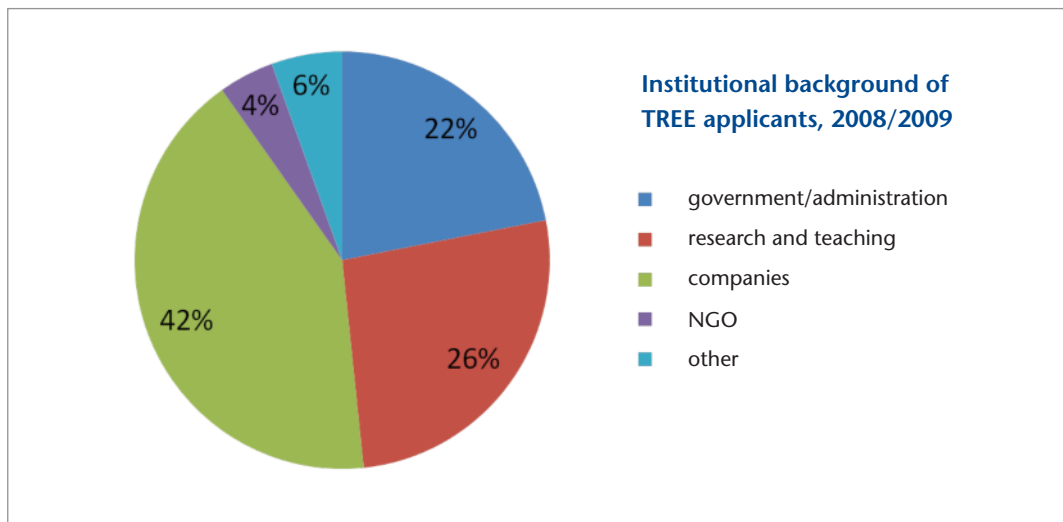
TREE 2009: Countries and number of participants

Country	Applicants	Total participants	Engineers	Decision-makers	Specialised seminars	Regional CSP seminars
Argentina	5	3	1	2	0	
Brazil	72	24	8	13	3	
Chile	62	100	13	4	10	83
China	106	13	4	6	3	
India	66	22	8	9	5	
Indonesia	59	19	3	8	8	
Jordani	56	80	8	13	1	62
Malaysia	82	26	9	8	9	
Mexico	68	21	8	7	6	
Namibia	47	54	9	13	0	42
Peru	35	88	2	10	2	81
Philippines	42	18	6	8	4	
South Africa	57	70	18	8	2	47
Thailand	77	20	10	7	3	
Total	834	558	107	116	56	315*

Total participants in seminars in Berlin and regional CSP seminars: 558

Participants in CSP seminars are not taken into account in the "Applicants" category, and some have also taken part in seminars for engineers and decision-makers.

Institutional background of TREE applicants, 2008/2009



The TREE seminars in Berlin represent an opportunity for participants from various continents to meet and exchange their experience. And they can stay in contact with the help of the TREE Community, and can discuss current problems or projects and thus ultimately contribute to the progress of the expansion of renewable energies in their own country thanks to the support of a worldwide network.

The project is being supported by the German Federal Ministry for the Environment:
Additional information:

Weitere Informationen:
www.tree-project.de
www.renac.de

Tables
 Seminars

Overview seminars for policy decision-makers

Brief description: Participants in these courses will receive a comprehensive overview of the most important technologies, how they work, and their possible applications. Strategies for the development of suitable framework conditions will be identified and financing instruments will be explained. Participants will be able to create important stimuli for the use of renewables and energy efficiency technologies in their own countries.

Topics

- Renewables (grid-connected) and energy efficiency: technologies, framework conditions, financing
- Rural electrification: technologies, framework conditions, financing

Number of seminars: 4

Duration: 5 days

Location: Berlin

Technology-specific specialised seminars for policy decision-makers

Brief description: In these seminars, the lifecycle of renewables and energy efficiency applications will be highlighted in various project phases and from the perspective of various participants such as financiers, project developers, legal specialists and operators. Existing systems will be compared and analysed. Participants will be given specialist knowledge on technology, costs, financing, legal aspects, quality assurance and the necessary framework conditions.

Topics

- Grid-connected photovoltaics
- Photovoltaic stand-alone systems (including examples of applications in water management)
- Biogas and biofuels
- Wind power (large-scale and small-scale)
- Solar thermal energy (large-scale and small-scale)
- Energy efficiency in industry and commerce, in the building sector and in the water sector
- Hybrid systems

Number of seminars: 7

Duration: 5 days

Location: Berlin

CSP seminars for engineers and decision-makers from the areas of policy and business

Brief description: The participants will acquire knowledge about the CSP technologies currently available, the state of the art in technology, and about possible applications. They will develop an understanding of the most important implementation steps and the main factors influencing the success of a CSP project.

Topics

- Prerequisites, technologies, project management, costs, financing, local value creation, grid connection and operation of solar thermal power plants

Number of seminars: 3

Duration: 3 days

Location: Abu Dhabi, Mexico, India

Seminars for financiers and project developers

Brief description: The seminars aim to support investments in renewables and energy efficiency projects by providing training for financiers and project developers. Economic analyses of various technologies and of various application conditions are presented, and viability analyses, financing mechanisms and examples are introduced.

Topics

- Financing for renewables and energy efficiency with technical introduction, cost calculations, examples of financing

Number of seminars: 4

Duration: 2 days

Location: Malaysia, Abu Dhabi, South Africa, Mexico