14th International Training Programme on

WIND TURBINE TECHNOLOGY AND APPLICATIONS

3rd to 30th September 2014

Organized by

CENTRE FOR WIND ENERGY TECHNOLOGY
Chennai, India

Sponsored by
MINISTRY OF EXTERNAL AFFAIRS
Government of India

Supported by
MINISTRY OF NEW AND RENEWABLE ENERGY
Government of India

Introduction

With the rising concerns on climate change, countries are under pressure to turn to Renewable Energy (RE) sources and reduce CO2 emissions. Amongst RE sources, Wind energy has proved a highly successful energy option and about 319 GW has been installed worldwide. Earth's commercially viable wind power potential is estimated at 72 TW which is five times more than World's total energy demand. With such a huge potential, only very few countries are using wind power. USA, some of the European countries and Asian countries like China and India are using wind energy on a large scale and it is in startup stage in many parts of the world. Lack of skilled human resource has been one of the main barriers that hinders wind and other renewable energy diffusion.

Centre for Wind Energy Technology (C-WET), Chennai, India, being first of its kind institution in Asia, perhaps even in developing countries, has responsibilities to address this issue. C-WET has contributed for diffusion of wind energy as one of the primary energy sources in India. India, over the years, has been a trend- setter nation with regard to wind power utilization. Decades of concerted efforts have started to yield gratifying results and today, Wind power contributes about 11.5% (21136 MW) of the total Indian energy mix (243029 MW) and stands fifth in terms of installed wind power capacity worldwide. With this vast experience, India can incorporate lessons learnt from its own experience to foster growth elsewhere in the globe. In this context, a four week International Training Programme is scheduled by C-WET. The programme is sponsored by Ministry of External Affairs (MEA), Government of India, for ITEC/ SCAAP member countries and supported by Ministry of New and Renewable Energy (MNRE), Government of India. To highlight, C-WET has so far successfully organized 13 international training programmes, wherein 280 professionals from 63 countries have been trained and it has also organized 16 national training courses and trained about 1000 professionals.

Objectives

- The prime objective is to transfer knowledge and special skills to the international participants.
- To build skilled human resource so that there will be advancement of wind energy in the participating country.
- To provide an invaluable platform for exchange of professional and cultural experiences among diverse participants.
- To leverage the research that continues to shape this rapidly evolving discipline.

Training Methodology

(a) Lectures include exercises and case studies to stimulate active participation and dialogue.

(b) Hands-on working on wind energy equipment

(c) Study visits to operating wind farms and wind turbine manufacturing facilities to enhance effective transfer of knowledge.

Resource Persons

The resource persons for this training programme will be C-WET scientists, industry professionals, academicians and other national experts who have significantly contributed for wind energy development.

Course Syllabus

The course content for the training has been carefully thought out syllabus with specific subject experts giving lectures and going through specific case studies such that, at the end of the day considerable useful knowledge transfer is perceived.

The programme will address the following aspects:

- Wind energy conversion technology and power generation
- Wind turbine technology and developments
- Design of wind turbine
- Wind turbine components and performance characteristics
- Wind resource assessment and techniques
- Planning including design of wind farms
- Wind farm developments and feasibility study
- Pre-Investment study and Cost benefit analysis
- Installation and commissioning of wind farms
- Post installation activities - Grid integration

- O & M aspects of wind farms
- Testing & Certification of wind turbines
- Small wind turbine and hybrid systems
- Indian government policies and schemes and legal frameworks.
- Wind energy developments in India
- CDM related to wind energy

Additional lectures during wind farms and manufacturing facility visits would also be organized to give a complete picture of the know-how and how to go about setting up a coordinated wind energy programme at national level.

Target Participants

The course will be useful for anyone involved in wind energy or those who are looking for an introduction. Persons from the following fields will find this programme very relevant.

- Academic & R & D Institutions
- Power Industry
- Manufacturers
- Suppliers and Distributors
- Utilities
- Consultants
- Project Developers / Managers
- Government Organization
- NGOs
- Media

Eligibility

- Applicants should be from any one of the **ITEC / SCAAP countries.**

  (List of ITEC / SCAAP countries can be found in http://itecmea.gov.in)

- **Degree / Diploma in Engineering / Science** with good knowledge in English.
- Age should be between **25 to 45 years.**

Course Fee

The course is a completely free which is sponsored by Ministry of External Affairs (MEA), Government of India under ITEC/SCAAP programme which includes **to and fro air fare, local travels, accommodation, living allowance and book allowance.** Accommodation provided will be of international standards.

Reason to Attend

The course will offer a good foundation on the principles of engineering behind wind energy technology and power generation & distribution along with financial viability and entrepreneur opportunities. The course would facilitate an invaluable forum for dialogue and open exchange of views and experiences with Indian scientists and professionals. The course would give a picture of complete know-how and pave the way to go about setting up a financially viable wind farm project.

The Programme

The total programme duration will be 28 days from 3rd to 30th September 2014.

Venue

The venue for the programme will be the Conference Hall of Centre for Wind Energy Technology, Chennai, India.

How to Apply?

Interested candidates may contact Indian Embassy / High Commission of India in their respective countries to submit application to forward to MEA and C-WET for processing. The information about Indian Embassy / High Commission located in ITEC / SCAAP countries and the application form is available in http://itec.mea.gov.in.

Course Coordinator

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ABOUT C-WET

Centre for Wind Energy Technology, shortly known as C-WET is an autonomous R&D institution established at Chennai in 1998 by the Ministry of New and Renewable Energy (MNRE), Government of India. It is a young organization with highly experienced professionals with expertise in all related disciplines of wind energy sector. This unique combination makes it a forward looking and practical organization that will take the next logical steps towards advancing wind technology in the right direction. With its open approach to all wind energy related science and technology, C-WET assures assistance from resource assessment to project implementation. As an integral part of C-WET, a world class Wind Turbine Test Station (WTTS) is established at Kayathar in Thoothukudi District, Tamil Nadu. Perhaps, C-WET is the only Testing and Certifying Agency in the country.

C-WET has the responsibility to provide complete scientific and technical backing to all stakeholders in the field of wind energy and has stated its commitment through its following quality policy.

C-WET is committed to achieve customer satisfaction, loyalty and confidence by providing credible, prompt and complete solutions of international quality to all the stakeholders in the wind energy sector.

C-WET, strives to be technical focal point of excellence for the present and future. C-WET shall stay at the forefront of Wind Turbine Technology application by continuously improving its expertise.

CENTRE FOR WIND ENERGY TECHNOLOGY

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