ITEC

24th International Training Course on

WIND TURBINE TECHNOLOGY AND APPLICATIONS

Specially for ITEC Partner Countries

23rd October to 19th November 2019

Organized by

National Institute of Wind Energy, CHENNAI

Ministry of New and Renewable Energy, Government of India

Sponsored by

Ministry of External Affairs, NEW DELHI

Government of India

Introduction

Renewable Energy in particular Wind and Solar has become mainstay in meeting energy needs having achieved grid parity in term of costs as well as technical requirement. The wind energy has proved a highly successful energy option with installation of over 560 GW worldwide by the end of December 2018. It is estimated that viable wind power potential across globe is 72 TW, which is four times more than the current World's total energy demand. The major wind generator installation is in USA, some of the European countries and Asian countries like China and India and other countries catching up with the rest. Lack of skilled human resource has been one of the main barriers that hinders wind and other renewable energy integration.

The National Institute of Wind Energy (NIWE), under the Ministry of New and Renewable Energy, Government of India has pioneered in promoting wind Energy and has contributed for promotion of wind energy as one of the primary energy sources in India. Decades of concerted efforts have started to yield gratifying results and today, Wind power contributes 10.6% (35625.97 MW) of the total Indian energy mix of 356100.19 MW and stands fourth in terms of installed wind power capacity worldwide as on March 2019. With this vast experience, we have an obligation to disseminate the knowledge learnt to foster growth of wind energy across globe. In this context, a five weeks International Training Course is scheduled by NIWE under ITEC programme sponsored by Ministry of External Affairs (MEA), Government of India. NIWE to its credit has successfully conducted 34 international training courses, wherein 693 professionals from 88 countries have been trained and has also conducted 31 national training courses and trained about 1386 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.

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 course considerable useful knowledge transfer is perceived.

The course will address the following aspects:

- Wind energy conversion technology and power generation
- Wind turbine technology and developments
- Design of wind turbines
- Wind turbine components
- 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 turbines
- Post installation activities - Grid integration
- O & M aspects of wind farms
- Testing & Certification of wind turbines
- Small wind turbine and hybrid systems
- Policies, schemes and legal frameworks

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

Participants will also have opportunity of hands on experience on Wind Energy systems at different laboratories.

Training Methodology

(a) Class room lectures including exercises and case studies to stimulate active participation and dialogue.

(b) Practical classes at different laboratories.

(c) Hands-on working on wind energy systems.

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

The Programme

The course duration will be 28 days from **23rd October to 19th November 2019.**

Venue

The venue for the programme will be the Conference Hall of **National Institute of Wind Energy**, Chennai, India.

Resource Persons

The resource persons for this training course will be NIWE engineers, industry professionals, academicians and other national experts who have significantly contributed for wind energy development in the country.

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 course very relevant.

- Academic and R & D Institutions
- Power Industry
- Manufacturers
- Suppliers and Distributors
- Utilities
- Consultants
- Project Developers
- Government Organization
- NGOs and Green Engineers

Eligibility

- Applicants should be from any one of the ITEC countries. List of ITEC countries can be found in www.itecgoi.in
- **Diploma or Degree** in any Science or Engineering Streams with Good knowledge in English.
- Age should be between **25 to 45 years.**

Course Fee

There is **NO COURSE FEE** and is fully funded by Ministry of External Affairs (MEA), Government of India under ITEC programme. The funding 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 financially viable wind farm projects.

How to Apply?

1. Those who are interested to apply for this Training Course are required to visit the website www.itecgoi.in.
2. Click on the **NEW USER** for filling up the online application form. It will take you to the streams to be chosen where you have to choose 'Environmental and Renewable Energy Course' and then select 'National Institute of Wind Energy'.
3. It will take you to the institute page where you have to click on the '**apply' link** provided in 24rd International Training Course on Wind Turbine Technology and Applications and follow the instructions.

Instructions

- Applicants are required to apply for ITEC training programme by filling up the online application form and take a print out of filled form. This form is to be submitted to the nodal / designated Government Department / Agency of applicant's country.
- Nodal / designated Department / Agency is, in turn, required to forward the applications to the Embassy / High Commission of India, accredited / concurrently accredited to the nominating country along with undertaking by candidate and certification from employer (Part-II of Application Form).
- Candidates may check the status of their application by logging-in at The credentials for log-in may be noted while filling up the application form.

Course Coordinator

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ABOUT NIWE

National Institute of Wind Energy formerly Centre for Wind Energy Technology shortly known as NIWE 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 premier institution with highly experienced professionals having expertise in all related disciplines of wind energy sector. NIWE is a forward looking and practical institution always well placed to take the next logical steps towards advancing wind technology in the right direction. With its progressive approach to all wind energy related science and technology from onshore to offshore, NIWE assures assistance from resource assessment (both wind and solar, RE forcasting for Energy production) to project implementation. As an integral part of NIWE, a world class accredited services providing Wind Turbine Test Station (WTTS) is established at Kayathar, Tamil Nadu. Perhaps, NIWE is the only Testing and Certifying agency in the country.

NIWE has been vested with 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 quality policy.

QUALITY POLICY

NIWE 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.

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

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