



**27th International Training Course on
WIND TURBINE TECHNOLOGY
AND APPLICATIONS**



04th to 20th October 2023



Organized by



NATIONAL INSTITUTE OF WIND ENERGY
Ministry of New and Renewable Energy, Government of India
CHENNAI

Sponsored by



MINISTRY OF EXTERNAL AFFAIRS
Government of India
NEW DELHI

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 to be a highly successful energy option and 906 GW has been installed worldwide by end of year 2022. Earth's commercially viable wind power potential is estimated to be huge and only very few countries are using wind power at a large scale like USA, European countries and Asian countries - China and India. Even though a good potential of wind is available in many countries, the wind power project is hindering because of the lack of skilled human resources at various stages of deployment.

NIWE, Chennai, India, being first of its kind institution in Asia, perhaps in developing countries, has responsibilities to address this issue. NIWE has contributed for diffusion of wind energy as one of the primary energy sources in India. India, over the years, has been a trend-setting nation with regard to wind power utilization. Decades of concerted efforts have started to yield gratifying results and today, Wind power with an installed capacity of 42868 MW contributes about 10 % of the total Indian energy mix of 416591 MW and stands fourth in terms of installed wind power capacity worldwide as on April 2023. With this vast experience, India can incorporate lessons learnt from its own experience to foster growth elsewhere in the globe. NIWE has so far successfully organized 45 international and 56 national training courses and trained over 3000 professionals from 102 countries. In this context, a three weeks International Training course is scheduled by NIWE under ITEC programme sponsored by Ministry of External Affairs (MEA) with the support of Ministry of New and Renewable Energy (MNRE), Government of India.

Objectives

- The prime objective is to transfer knowledge and special skills to the international participants on wind energy.
- 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) 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.

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
- 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.

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
- 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 working knowledge of **English** required to follow the Course.
- Age between **25 to 45 years**.
- **Medically fit** to undertake the training.

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.

The Programme

The course duration will be 18 days **from 04th to 20th October 2023**.

Venue

The venue for the programme will be **Conference Hall of NIWE, Chennai**

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 give a picture of complete know-how and pave the way to go about setting up financially viable wind farm projects. Participants after attending the programme will have the complete overview about wind and its technology as well as Indian wind power development, which will enlighten the participants to know about the wind sector, potential and job availability as well as the government schemes, policies and supports. This course will boost the participant's interest working towards wind energy sector and will create the required skilled / trained man power for fostering the growth of wind power

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 menu button (☰) on the top right corner and click on Apply for ITEC and choose 'Apply Now' for filling up the online application form. It will take you to the streams to be chosen where you have to choose 'Environment and Renewable Energy Courses' 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 27th International Training Course on Wind Turbine Technology and Applications and follow the instructions.

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 in 1998 at Chennai 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 forecasting 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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