



**ITEC**



26<sup>th</sup> International Training Course on  
**WIND TURBINE TECHNOLOGY  
AND APPLICATIONS**

**01<sup>st</sup> - 24<sup>th</sup> February 2023**



**Organized by**



**नीवे NIWE**

**NATIONAL INSTITUTE OF WIND ENERGY**

An Autonomous Research & Development Institution  
Ministry of New and Renewable Energy, Government of India  
CHENNAI

**Sponsored by**



**MINISTRY OF EXTERNAL AFFAIRS**

Government of India  
NEW DELHI



## 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 894 GW worldwide by the end of the year 2021. 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% (41666.08 MW MW) of the total Indian energy mix of 408715 MW and stands fourth in terms of installed wind power capacity worldwide as on October 2022. 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 four weeks International Training Course is scheduled by NIWE under ITEC programme sponsored by Ministry of External Affairs (MEA), Government of India. NIWE had so far trained more than 2950 professionals from 100 countries by conducting 53 national and 42 international training courses.

## 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.

## 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.

## 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.

## The Programme

The course duration will be 24 days **from 01<sup>st</sup> to 24<sup>th</sup> February 2023.**

## 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

## 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.

## Venue

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

## Eligibility

- ◆ Applicants should be from any one of the ITEC countries. List of ITEC countries can be found in [www.itecgoi.in](http://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.**

## 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 sector.

## How to Apply?

1. Those who are interested to apply for this Training Course are required to visit the website [www.itecgoi.in](http://www.itecgoi.in).
2. Click on the E-ITEC/ITEC ONSITE, 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 Climate Change' 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 26<sup>th</sup> International Training Course on Wind Turbine Technology and Applications and follow the instructions.
4. Or simply type the URL (<https://bit.ly/3zIKira>) on browser, it will take you directly to the 'Apply link' page.

## Course Coordinator

**Dr. P. KANAGAVEL**  
Director & Head

Skill Development and Training and Infrastructure Management (SDT & IM) Division

**National Institute of Wind Energy**

Velachery – Tambaram Main Road, Pallikaranai, Chennai – 600 100, Tamil Nadu, India

Phone: +91-44-2246 3982 / 83 / 84 +91-44-2246 3994 (Direct) Mobile: +91 - 9445798007

Fax: +91 - 44 - 2246 3980 E-mail: [itraining@niwe.res.in](mailto:itraining@niwe.res.in)

## 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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Velachery – Tambaram Main Road, Pallikaranai, Chennai – 600 100, Tamil Nadu, India

Phone: +91-44-2246 3982, +91-44-2246 3983, +91-44-2246 3984

E-mail: [itraining@niwe.res.in](mailto:itraining@niwe.res.in) Web: <http://niwe.res.in>

