

9th National Training Course on

WIND ENERGY TECHNOLOGY

21st to 23rd July 2010

Organized by :



CENTRE FOR WIND ENERGY TECHNOLOGY

An Autonomous Research and Development Institution

Ministry of New and Renewable Energy, Government of India

Chennai – 600 100

Wind energy ranks top amongst all commercially viable renewable sources of energy for electricity generation. The Government of India has supported the growth of wind energy in the country for the past couple of decades with various incentives and policy measures with which India now ranks fifth in the world with total installed capacity of 11,758 MW as on March 2010. To assure timely evolution of wind industry and to meet India's demands and development of rural areas, human resource development is a matter of immense interest.

The wind energy market is continuing to grow steadily in India along with the rest of the world. India is set to become one of the global manufacturing hub for wind turbines in next few years. India has about 16 large wind turbine manufacturers with capacity ranging from 225 kW to 2000 kW and several small wind turbine manufacturers producing capacity ranging from 300 W to 50 kW. Some of the turbines produced in India are currently exported by several manufacturers and are expanding capacity to meet growing demand. The industry faces a shortage of skilled man power to meet the demands of its rapid growth. To address this need, C-WET has been continuously organizing national & international training programmes since 2004. Till now, about 500 national and 100 international participants were trained by C-WET through its eight national and six international training courses.

With this background, we are happy to announce the 9th National Training Course on "Wind Energy Technology" to address all aspects of Wind Resource Assessment, Wind Turbine Testing, Standards & Certification and Operation Maintenance of Wind Electric Generators (WEGs) in a focused manner. This short course offers a unique opportunity to learn about fundamentals of wind turbine technology and have been well received by the public and appreciated for wide coverage of interdisciplinary syllabus and quality of lectures.

COURSE OBJECTIVES

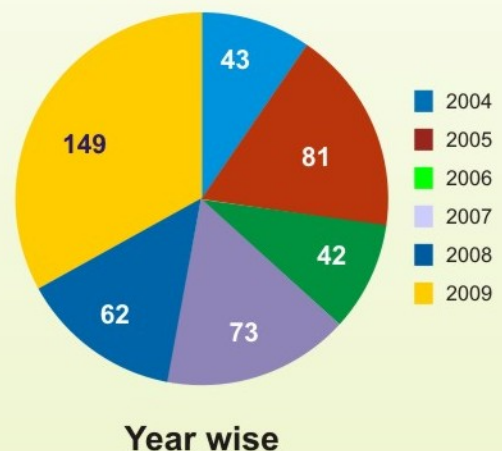
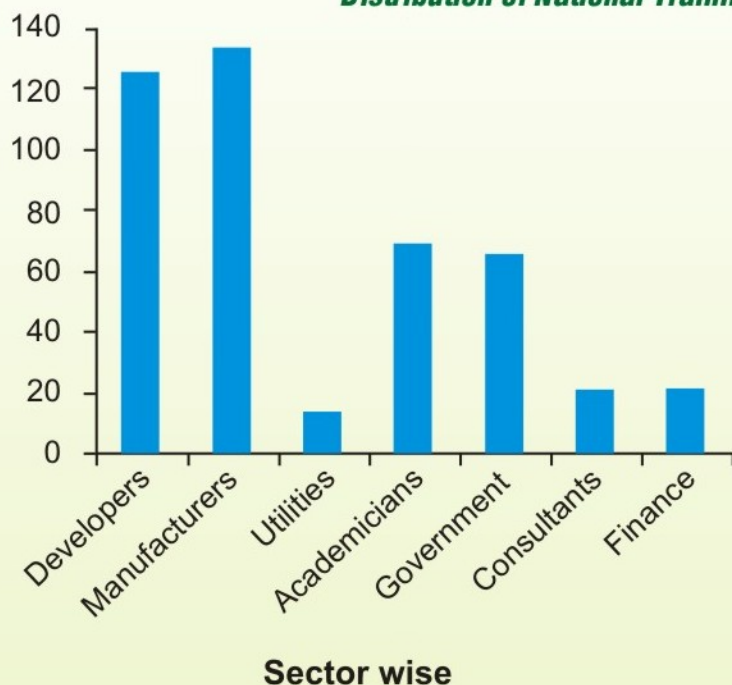
The objective of the training course is to transfer knowledge and needed special skills to the wind energy personnel active in technical and operational fields. The idea is to provide specialized training and knowledge to industry, utilities, technical institutions and various central and state governmental implementing agencies.

- ❖ Build personnel to meet the huge demand of skilled human resource in India, and specifically to do extensive research and evolve innovative strategies.
- ❖ Disseminate knowledge and develop special skills using lectures from scientists and leading professionals in the wind energy sector, interactive sessions with the leading personnel in the Wind Energy field and learning materials.
- ❖ Provide an invaluable platform for exchange of professional and cultural experiences among diverse participants from all parts of the country.
- ❖ At the end of this course participants will have strong understanding on fundamentals of wind energy technology along with applications, standards, certification, economics, CDM and policies.
- ❖ Leverage on the research that continues to shape this rapidly evolving discipline.

THE PROGRAMME

The total course duration is three days from **21st to 23rd July 2010** encompassing presentations, lectures with case studies, success stories and exercises. The training course timing will be from **09.00 am to 06.00 pm**.

Distribution of National Training Course Participation



REFLECTIONS FROM SOME PARTICIPANTS

"Beneficial course for those who are going to enter in wind energy profession...."

"Technical content was too right considering diverse mix of people..."

"Very informative program covering all aspects of wind energy development with excellent presentations..."

"It might be a good for beginners in the field of wind energy technology..."

METHODOLOGY & COURSE OUTLINE

The course content for the training is a carefully thought out syllabus with specific subject experts giving lectures and class room exercises. The course is designed to address all the aspects of wind power harnessing starting from wind resources assessment to project implementation and operations & maintenance in a focused manner. The three day course gives an overview covering the following multi-disciplinary topics:

- ❖ Wind energy conversion technology and power generation
- ❖ Assembly / design of wind turbine
- ❖ Wind turbine components and performance characteristics
- ❖ Control system engineering
- ❖ Wind turbine technology developments
- ❖ Feasibility study & technology assessment of wind farms
- ❖ Wind resources assessment and techniques
- ❖ Planning including design of wind farms
- ❖ Cost benefit analysis of wind energy projects
- ❖ Installation and commissioning of wind farms
- ❖ Post installation activities - grid integration
- ❖ O & M aspects of wind farms
- ❖ Testing of wind turbines
- ❖ Certification of wind turbines
- ❖ Small wind turbine and hybrid systems
- ❖ Indian government policies, schemes and legal frameworks
- ❖ Wind energy developments in India
- ❖ CDM related to wind energy development

RESOURCE PERSONNEL

The resource persons for the training course would be from C-WET scientists / engineers, national experts, engineers, scientists and academicians, who have contributed significantly for the developments in the field of energy, renewable energy and wind energy in particular.

TARGETED PARTICIPANTS

The course will be useful for anyone involved in wind energy industry, or those looking for an introduction. Person from the following fields will find this course very relevant.

- ❖ Academic institutions ❖ State Nodal Agencies
- ❖ Consultants ❖ Project Developers/Managers
- ❖ NGOs ❖ Suppliers and Distributors ❖ R&D Institutions
- ❖ Government Organization ❖ Media

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 also outline the government policies and wind energy scenario in India. The course would facilitate an invaluable platform for dialogue and open exchange of views and experiences with scientists / professionals across the country. The course would give a picture of the know-how and pave the way to go about setting up a financially viable wind farm project.

COURSE HIGHLIGHT

Interactive sessions would also be organized with key personnel from Electricity Board, State Nodal Agencies, policy makers and regulatory bodies to develop awareness and understand how to mutually contribute to the development of an economically successful wind energy project.

VENUE

The venue for the course would be the Lecture Hall in the Centre for Wind Energy Technology, 657/1A2, Velachery - Tambaram Main Road, Pallikaranai, Chennai – 600 100.

COURSE FEE

This is a non-residential training course. The course fee is **Rs.10,000 per participant and Rs.2,500** for students which **includes a service tax of 10.3%**. Students need to provide a supporting bonafide certificate authorized by the head of the institution. The course fee must be paid by demand draft drawn in favour of the **"Centre for Wind Energy Technology", payable at Chennai**. The course fee includes course material, lunch & refreshments and excludes the accommodation.

REGISTRATION

The enclosed registration form should be filled in all aspects and reach C-WET on or before the **15th July 2010** along with the course fee. Due to limited seats, acceptance of nominations will be on the **"First-come, First Served"** basis subject to receipt of full course fee of Rs.10,000 or Rs 2,500/-, which includes Service Tax.

COURSE COORDINATOR

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ABOUT C-WET

The 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 located 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 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.



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