

EDITORIAL



In March 2026, the Global Wind Energy Council launched a new Wind Action Plan setting out strategies for scaling wind deployment globally. GWEC is set to launch its Global Wind Report 2026 in Turkey, featuring key industry statistics and insights on emerging markets and challenges. GWEC has also announced Hanoi, Vietnam as the host of the next APAC Wind Energy Summit 2026.

India's total installed power generation capacity has reached 520, 511 MW as of January 31, 2026, with renewable energy now contributing 50.6% of the total — a historic milestone where clean energy surpasses fossil fuels for the first time. According to the National Generation Adequacy Plan released by the Central Electricity Authority (CEA) on March 19, 2026, India's wind energy capacity could triple over the next decade.

NIWE has completed the offshore wind resource assessment and geophysical & geotechnical investigation for development of offshore wind farm of 500 MW at sub zone 1 Gulf of Mannar off Tamil Nadu coast under Model A. NIWE invited tender for Supply of meteorological and oceanographic data for a continuous period of minimum one year by deploying Integrated Floating Buoy with offshore LiDAR, Meteorological and Oceanographic Sensors (Wave, Current etc..) on LEASE BASIS at Sub Zone-1 in Gulf of Mannar including Comprehensive Operation and Maintenance for a period of 1 Year.

The R&D Division achieved a key milestone in advancing offshore wind measurement capabilities under the project "Development of Floating LiDAR Offshore Wind Measurement System – A Demonstrative Project." Also the division had successfully deployed the LiDAR-integrated buoy system at Muttom Harbour in March 2026, where real-time offshore measurements were carried out under nearshore conditions. This activity marks a crucial step in validating indigenous floating LiDAR technology in marine environments.

The WRA Division has successfully undertaken and completed multiple Wind Resource Assessment (WRA), Energy Yield Assessment (EYA), data verification, and micro-siting-related projects for

6 clients across India. During the period, 205 geotagging IDs have been created which involves capturing GPS coordinates of wind turbine locations and assigning a unique ID to each turbine.

A Service Agreement was signed to carry out Normalization of Power Performance measurements data to reference turbulence intensities for Inox Wind Turbine and a Test report was issued to M/s. Inox Wind Limited. The review of documentation was completed for ten ALMM (Wind) applications pertaining to various wind turbine models submitted by wind turbine manufacturers. Further, technical support was provided to MNRE for the implementation of the Approved List of Models and Manufacturers (Wind) process.

The certification division had an Agreement signed with M/s. Inox wind Limited for the Updation of Type certificate. The Evaluation process has been completed and the updated Type Certificate has been issued. An Agreement has also been signed with M/s. Pioneer Wincon Energy Systems Private Limited for the second stage of Certification process. Also an Agreement has been signed between NIWE and M/s. Inox Wind Limited for Pre-Evaluation of documentation and updation of the existing Type Certificate.

The Skill Development and Training Division of NIWE has successfully conducted the 29th National Training Course on "Wind Energy Technology". VSDP Phase-II Project has been implemented with a new qualification pack - Wind Farm Engineer to promote skill development in Indian Wind Energy Sector. ToT Batches commenced from November 2025 to March 2026 and a total of 122 trainers have been trained by conducting 5 ToT batches. Further, a total of 8 ToP batches have commenced through various training partners. From January to March 2026, our internship program saw significant activity. Out of 33 applications received, 17 students successfully enrolled. 40 officials and 394 students had visited NIWE as part of the student visit programme.

The wind has always been free. We are simply learning to harness it better, faster, and at greater scale. The best chapters of this story are still ahead. Thank you for being part of the journey — see you next quarter.

Dr. Rajesh Katyal, Director General

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[www.Twitter.com/niwe_chennai](https://www.twitter.com/niwe_chennai)

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Research and Development

Advancing Offshore Wind Measurements: Successful Floating LiDAR Deployment at Muttom

During the January–March 2026 quarter, the R&D Division of NIWE achieved a key milestone in advancing offshore wind measurement capabilities under the project “Development of Floating LiDAR Offshore Wind Measurement System – A Demonstrative Project.”

The period began with successful servicing and restoration of LiDAR systems, ensuring readiness for field operations. These systems were subsequently handed over to NIOT in February 2026 for deployment and validation activities.

A major breakthrough was the successful short-term deployment of the LiDAR-integrated buoy system at Muttom Harbour in March 2026, where real-time offshore measurements were carried out under nearshore conditions. This activity marks a crucial step in validating indigenous floating LiDAR technology in marine environments.

The progress achieved aligns with the project's broader objectives of buoy integration, motion compensation validation, and offshore data acquisition. The successful execution of field trials highlights the strong technical synergy between NIWE and NIOT and contributes significantly towards strengthening India's offshore wind assessment capabilities.



Short term Deployed NIOT Buoy with NIWE LIDAR

NIWE at IEA Wind TCP ExCo 99 – Strengthening India's Global Wind R&D Presence

NIWE actively participated in the 99th Executive Committee (ExCo 99) meeting of the IEA Wind Technology Collaboration Programme, engaging with leading international experts, research institutions, and policy representatives from over 30 countries. The meeting featured key deliberations on global wind energy research priorities, including Task outcomes, digitalisation, offshore wind development, and future collaborative initiatives.

NIWE's participation reinforced India's position in shaping global wind energy discourse while enabling access to cutting-edge research, best practices, and strategic insights. The engagement continues to strengthen NIWE's role as the national focal agency for wind energy R&D and international collaboration.

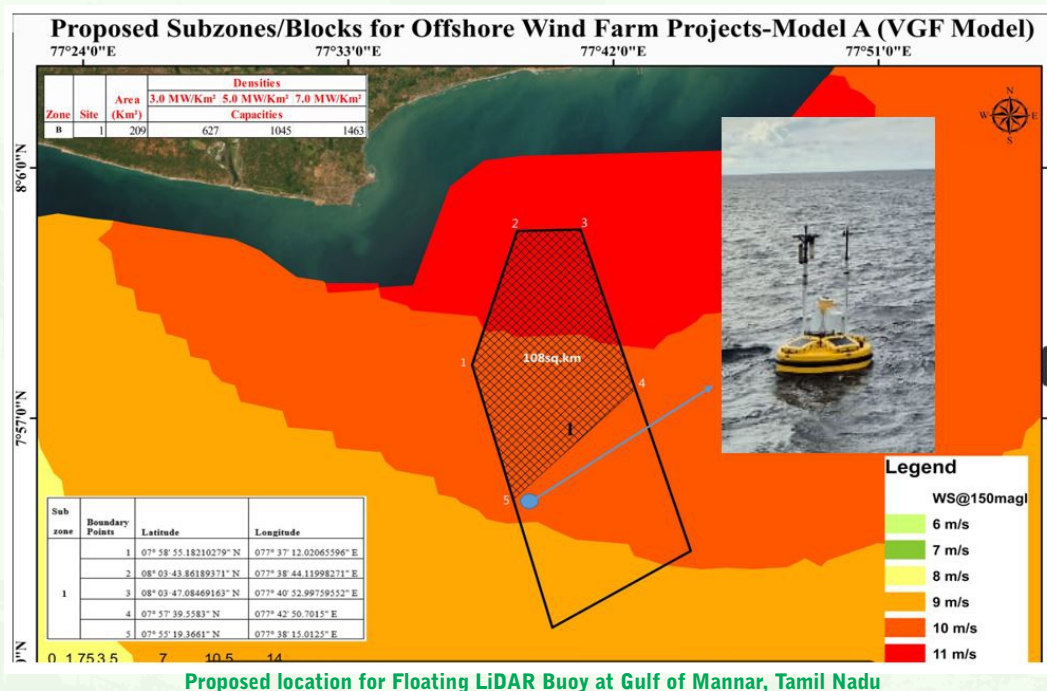
Offshore Wind Development

NIWE has completed the offshore wind resource assessment and geophysical & geotechnical investigation for development of offshore wind farm of 500 MW at sub zone 1 Gulf of Mannar off Tamil Nadu coast under Model A.

a. Offshore Wind Resource Assessment using Floating Buoy LiDAR system:

NIWE invited tender for Supply of meteorological and oceanographic data for a continuous period of minimum one year by deploying Integrated Floating Buoy with offshore LiDAR, Meteorological and Oceanographic Sensors (Wave, Current etc.,) on LEASE BASIS at Sub Zone-1 in Gulf of Mannar off, Tamil Nadu Coast in India including Comprehensive Operation and Maintenance for a period of 1 Year.

The floating buoy was successfully deployed at Sub-zone-1 Gulf of Mannar, Tamil Nadu coast and data has been received at NIWE server. One year of continuous data collection of Wind and other Met Ocean Measurements completed in February 2026.

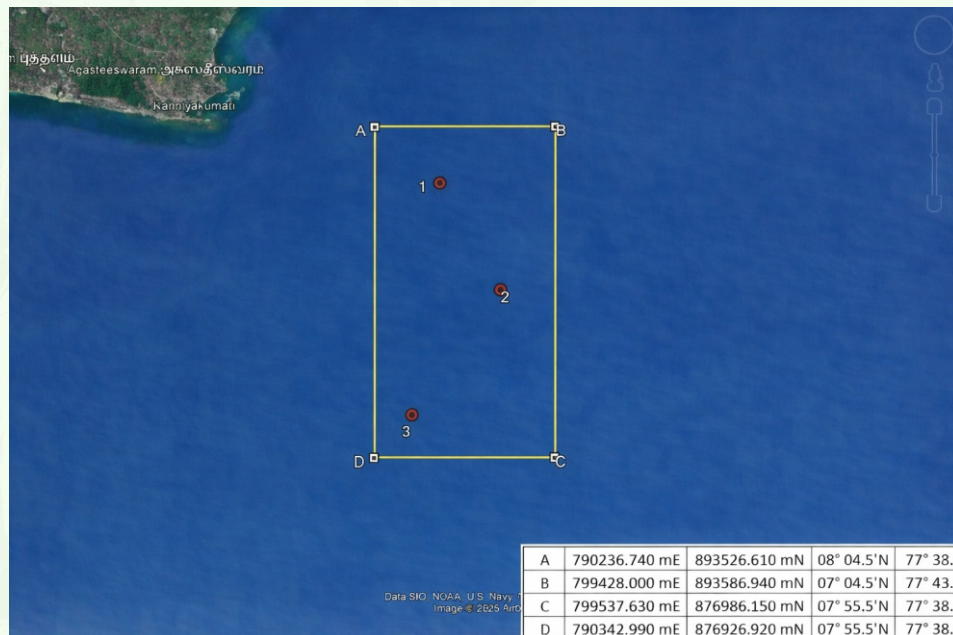




Dismantling of Floating LiDAR Buoy

b. Geotechnical Investigation at sub zone 1 Gulf of Mannar off Tamil Nadu coast:

NIWE has successfully completed the Geotechnical Investigation at three proposed locations in subzone 1 selected based on geophysical survey in the Gulf of Mannar, off the Tamil Nadu coast. This study is needed to provide essential data on seabed conditions, ensuring safe and effective design and construction of offshore structures. The project includes drilling boreholes up to 60 meters below the seabed, collecting soil samples, and performing laboratory tests such as grain size analysis, Atterberg limits, and strength and permeability assessments.



Geotechnical borehole locations at Gulf of Mannar, Tamil Nadu



Geotechnical Vessel



Geotechnical drilling

Publication

M.C. Lavanya, Deputy Director (T) "Enhanced Grid Support of Type-4 Wind Turbines and Battery Energy Storage Using Hybrid Virtual Synchronous Control," IEEE Transactions on Industrial Electronics, doi: 10.1109/TIE.2025.3649846.

Wind Resource Assessment

Data Collection and Analysis

Lakshadweep

- Division has installed Lidar at Kadamat Island.
- Measurement is under progress

Data Analytics

Consultancy projects

The WRA Division has successfully undertaken and completed multiple Wind Resource Assessment (WRA), Energy Yield Assessment (EYA), data verification, and micro-siting-related projects for various clients across India, as detailed below:



- M/s. Suzlon Energy Limited - Verification Procedure of Wind Monitoring Station at Sodabandhan, Jaisalmer District, Gujarat.
- M/s. Rays Power Infra Limited - Energy Yield Assessment for the proposed 250 MW Wind Farm – Devereddypalli.
- M/s. Inox Wind Limited - Energy Yield Assessment for the Proposed 102MW Wind Farm Project at Morbi Site, Gujarat.
- M/s. Inox Wind Limited - Energy Yield Assessment for the Proposed 150 MW Wind Farm Project – Dayapar.
- M/s. Prozeal Green Energy Limited - Energy Yield Assessment for the Proposed 250 MW Wind Farm Project at Bellary District, Karnataka.
- M/s. Oriana Power Limited - Energy Yield Assessment for the Proposed 252 MW Wind Farm Project in Bihar Village Kutch Distirct, Gujarat.

Geotagging

Geotagging is a process that involves capturing GPS coordinates of wind turbine locations and assigning a unique ID to each turbine. In the case of a wind farm site with multiple turbines, this process was implemented to accurately map the precise location of each turbine. During the period, 205 geotagging IDs have been created.

Sl.No.	Name of the client	Site	No of WTG
1.	Powerica Ltd. Mumbai	Gujarat	19
2.	Juniper Green Stellar Private Limited	Rajasthan	24
3.	Juniper Green Stellar Private Limited	Gujarat	31
4.	AMPIN Energy Green Eight Pvt Ltd.,	Rajasthan	14
5.	AMPIN Energy Green Three Pvt Ltd.,	Rajasthan	6

Issuance of Elevation Certificate for MoD NoC Applications for Wind Power Projects

- The purpose of the project is to validate the elevation certificate and the inputs given by the surveyor and client. To do this, DGPS is used to conduct joint site visits. High-resolution terrain modeling and desktop GIS tools are used to validate the coordinates of all proposed wind turbine locations, and a report and certificate are provided.
- Visited 23 WTGs in locations in Halligudi Village, Gadag, Karnataka - M/s. SolarXL Beta Energy Private Limited for Issuance of Elevation Certificate for MOD NOC Application for Wind Power Projects.

Certification & Information Technology

CERTIFICATION

- An Agreement has been signed between NIWE and M/s. Inox wind Limited for Updation of Type certificate for the scope “Inclusion of main consolidated ISO 9001:2015 Certificate, and issue a revised Type certificate” for the wind turbine model “INOX DF/3000/145 3.0 MW, Power Booster Mode 3.3 MW Rotor Blade Type SR71 V2 (T-Bolt) / WBSR146-3.0 Hub Height 100m/122.5m/140m IEC WT Class IIIB/Class S”. The Evaluation process has been completed and the updated Type Certificate has been issued.
- An Agreement has already been signed between NIWE and M/s. Pioneer Wincon Energy Systems Private Limited for the second stage of Certification process viz., Evaluation of documentation in connection with Type Certification of “Pioneer Wincon 750/57, 750.0kW, PW28.0, HH 90.0m, IEC III A” for the inclusion of 110m Hub Height tower design and the re-evaluation of existing 90m Hub Height tower design. The re-evaluation of existing 90m Hub Height tower design has been completed and evaluation for inclusion of 110m Hub Height tower design is ongoing.
- An Agreement has been signed between NIWE and M/s. Inox Wind Limited for Pre-Evaluation of documentation in connection with the inclusion of additional component suppliers and updation of the existing Type Certificate issued by NIWE for wind turbine model 'INOX DF/3000/145 3.0 MW Power Booster Mode 3.3 MW Rotor Blade Type SR71 V2 (T-Bolt) / WBSR146-3.0 Hub Height 100m/122.5m/140m IEC WT Class IIIB/Class S'. The Pre-Evaluation process has been completed.
- An Agreement has been signed between NIWE and M/s. Inox Wind Limited for Evaluation of documentation in connection with the inclusion of additional component suppliers and updation of the existing Type Certificate issued by NIWE for the wind turbine model of “INOX DF/3000/145 3.0 MW, Power Booster Mode 3.3 MW Rotor Blade Type SR71 V2 (T-Bolt) / WBSR146-3.0 Hub Height 100m/122.5m/140m IEC WT Class IIIB / Class S”. The Evaluation process is ongoing.
- NIWE successfully undergone the Surveillance Office Assessment conducted on 17.03.2026 at NIWE, Chennai and NABCB recommended for continuation of accreditation as an inspection body as per ISO/IEC 17020:2012.
- Shri. S Arulselvan & S. Paramasivan had gone to M/s. Inox Wind Limited, at Rohika Village, Ahmedabad, & M/s. Karamtara Engineering Ltd.(KEL)., Meghpar, Kachchh to carry out the manufacturing evaluation of the Tubular Steel Tower facility in connection with the inclusion of additional component supplier and updation of Type Certificate issued by NIWE for the wind turbine model of “INOX DF/3000/145 3.0 MW,

Power Booster Mode 3.3 MW Rotor Blade Type SR71 V2 (T-Bolt) / WBSR146-3.0 Hub Height 100m/122.5m/140m IEC WT Class IIIB/ Class S”.

- Shri. S Arulselvan & S. Paramasivan had gone to M/s.Ultra Corpotech Private Limited., Ambethan Chakan Village, Pune,, to carry out the manufacturing evaluation of the Generator Frame Manufacturing facility in connection with the inclusion of additional component supplier and updation of the existing Type Certificate issued by NIWE for the wind turbine model of “INOX DF/3000/145 3.0 MW, Power Booster Mode 3.3 MW Rotor Blade Type SR71 V2 (T-Bolt) / WBSR146-3.0 Hub Height 100m/122.5m/140m IEC WT Class IIIB / Class S” for M/s. Inox Wind Limited.

INFORMATION TECHNOLOGY

- Continued to maintain the IT infrastructure to keep servers, storage, systems, firewalls, switches, CCTV, endpoint security and technical software's up and running.
- Continued to provide IT support for users at NIWE and its stakeholders.
- Carrying out procurement of new hardware, software, and AMC services.
- Taking backups of NIWE data in DC and DR IT infrastructure.
- STQC GIGW certification for NIWE website is in progress.

Testing

Normalization of Power Performance measurement:

A Service Agreement was signed on 20.01.2026 to carry out Normalization of Power Performance measurements data to reference turbulence intensities for “Wind Turbine Inox DF/3000/145 3.0 MW Power booster mode 3.3 MW rotor blade type SR 71 V2 (T Bolt) Hub height 100 m WT class IIIB” wind turbine with power booster mode 3.3 MW operation as per Annex M of IEC 61400-12-1:2017. Based on the data analysis performed as per IEC Standard, Test report was issued to M/s. Inox Wind Limited.

Site Feasibility Study - NTPC Wind Farm

A Service Agreement was already signed on 11.11.2025 with M/s. Inox Wind Limited to conduct a Site Feasibility Study in accordance with IEC 61400-12-1:2017 which is a pre-requisite for undertaking Power Performance Measurements of a proposed 2 MW Wind Turbine (RD: 113m, HH: 92m) by M/s. Inox Wind limited at the NTPC 150 MW Wind Farm located at Dayapar, Kutch District, Gujarat. Based on the site visit carried out on 02.12.2025 and subsequent analysis, the Test report on Site Feasibility was issued to M/s. Inox Wind Limited.

Calibration Wind Tunnel Facility (CTF) Project

The officials from Madhya Pradesh Industrial Development Corporation Limited (MPIDC) visited NIWE, Chennai on 04.02.2026 & 05.02.2026 regarding the Finalization of Request for Proposal (RFP).

Based on the discussion during the visit and subsequent communications, Request for Proposal was finalized on 18.03.2026 and Madhya Pradesh Industrial Development Corporation Limited (MPIDC) has published RFP viz., “Request for proposal for Design, engineering, supply, erection, Installation, testing and

Commissioning of calibration wind Tunnel facility at Mohasa-babai industrial area, district Narmadapuram, Madhya Pradesh”.

Quality Management System

Continual improvement and maintenance of the Quality Management System for Testing services as per ISO 9001:2015 and ISO/IEC 17025:2017 standards are in progress.

Renewable Energy Projects

The Division manages two grid-connected solar power projects, a 2 MWp ground-mounted plant at IIM Trichy and a 1 MW (AC) ground-mounted plant at Madurai Kamaraj University. Regular monitoring includes daily review of generation data and periodic site inspections of key components such as modules, inverters and transformers. Operation and Maintenance activities, including module cleaning and equipment testing, are carried out as per agreed O&M protocols. This proactive management ensures optimal performance, reliable operation and maximum clean energy generation, supporting the sustainability goals of the institutions.



Joint Inspection carried out at IIM Trichy on 07.01.2026

NIWE team visited to conduct a Joint Inspection of 2 MW Solar Power Plant at IIM, Trichy on 07.01.2026 and 1 MW Solar Power Plant at Madurai Kamaraj University (MKU), Madurai on 08.01.2026 for monitoring the Operations and Maintenance (O&M) activities of the plant.

Publication

1. Modified single diode quadratic boost converter with less active component stress for rooftop solar PV applications, January 2026, International Journal of Electronics Letters DOI: 10.1080/21681724.2026.2620381: Divya Navamani, Boopathi Kadirvel
2. Fault-Tolerant Reconfigured Converter for Enhanced Reliability in Wind Turbine Emulation Systems: March 2026 Journal of Circuits, Systems and Computers: DOI: 10.1142/S0218126626501884: Navamani J Divya, Boopathi Kadirvel, Lavanya Anbazhagan

Nomination for Higher Studies

Dr.A. Hari Bhaskaran, Deputy Director (Technical) was nominated and approved as a Member of the Board of Studies (BoS) for the PG Diploma Programme in Climate Change and Sustainability, to be offered under the Tamil Nadu Chief Minister's Green Fellowship Programme (CMGFP) 2025–2027 and attended its first meeting on 30.03.2026.

Standards and Regulation

- The review of documentation was completed for ten ALMM (Wind) applications pertaining to various wind turbine models submitted by wind turbine manufacturers. Further, technical support was provided to MNRE for the implementation of the Approved List of Models and Manufacturers (Wind) process.
- The Prototype Committee meeting, chaired by the Director General, NIWE, was organized on 20.03.2026 through video conference.
- Completed the review of documentation of one modified prototype wind turbine model. Subsequently, a revised letter has been issued in connection with grid synchronization for one modified prototype wind turbine model, as decided by the Prototype Committee.
- Technical support was provided to the Bureau of Indian Standards (BIS) on matters related to standardization.



Skill Development and Training

TRAININGS

SDT Division had conducted the following Training Course during the period to equip participants with comprehensive knowledge of wind energy systems and their applications, share updates on global and national wind energy scenarios, government policies, legal frame works and capacity enhancement in the sector.

29th National Training Course

The Skill Development and Training Division had successfully conducted the 29th National Training Course on "Wind Energy Technology" held during 21.01.2026 to 23.01.2026. This course provided focused coverage of wind power, from Introduction to wind and its technology, to wind resource assessment, installation, commissioning, operation & maintenance, financial and policy aspects. Forty-three participants from seven Indian States (Andhra Pradesh, Jammu & Kashmir, Karnataka, Maharashtra, Rajasthan, Tamil Nadu, Telangana) and one Union Territory (New Delhi) attended the training. The diverse group comprised of 35 male and 8 female participants.

Dr. P. Kanagavel, Director and Head of the SDT Division, officiated the inauguration of the course. The curriculum then featured eleven specialized technical sessions led by a team of nine NIWE scientists and engineers.

The training included a technical field visit to NIWE's renewable energy facilities, allowing participants to bridge the gap between theory and practice. Their visit offered insights into various systems, including Water Pumping Wind Mill, Vertical and Horizontal Axis Small Wind Turbines, Wind-Solar Hybrid System, Wind Turbine Nacelle, Wind Monitoring Station (Meteorological Mast), Solar Calibration Laboratory, and Solar Radiation Resource Assessment (SRRA) Station.



Dr. P. Kanagavel distributing the Course Certificate to the participant

The program concluded with a positive feedback from the participants, who praised the organizers for their seamless coordination and exceptional hospitality. Participants specifically highlighted the lectures as being both intellectually engaging and practically valuable for their domains. Dr. P. Kanagavel, Director & Head, SDT Division, distributed the course certificates and thanked the participants for their participation and appreciation.



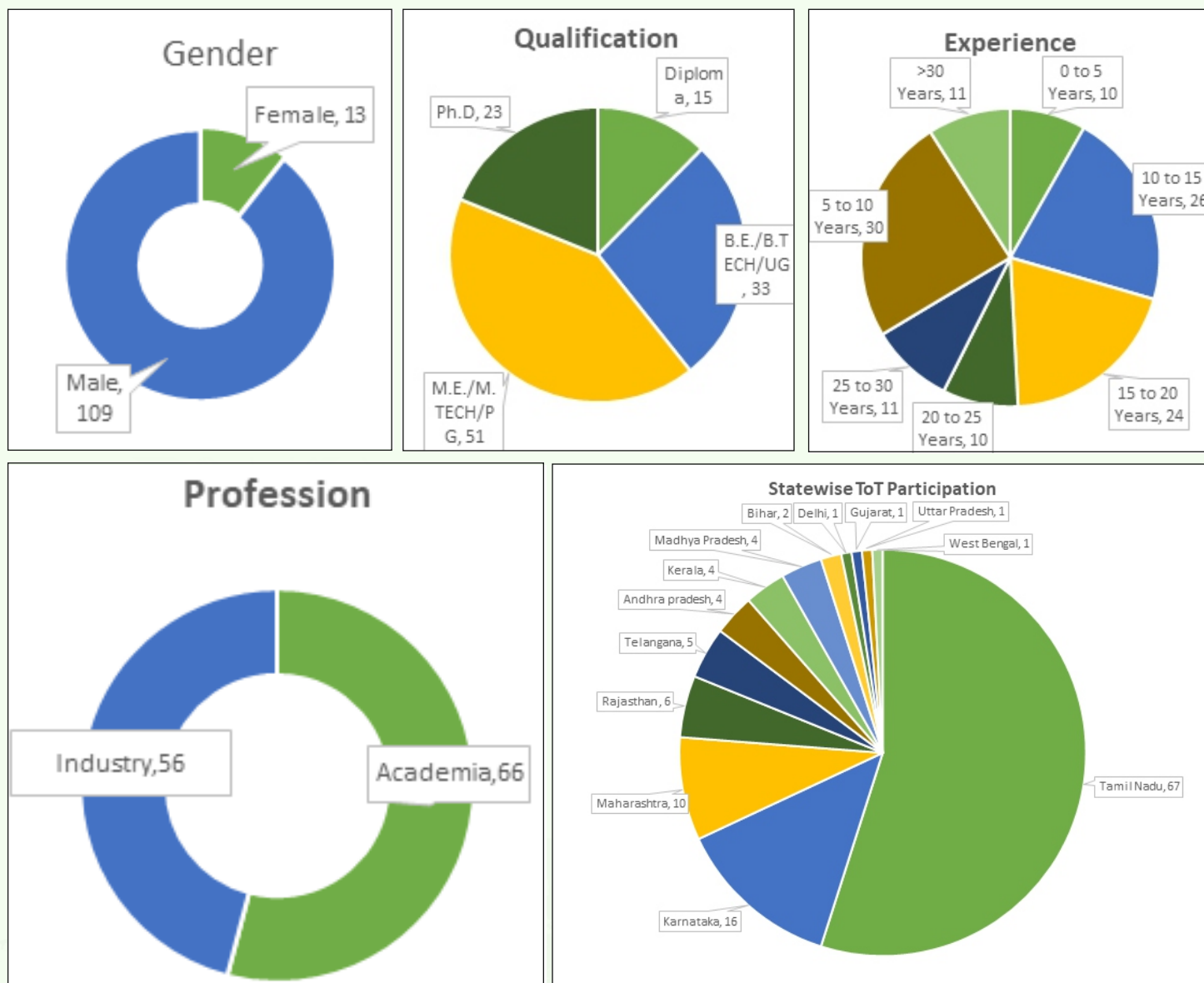
Group photo of 29th National Training Course Participants

Vayumitra Skill Development Programme (VSDP) - Phase-II

The SDT Division has implemented the VSDP Phase-II Project with a new qualification pack - Wind Farm Engineer to promote skill development in Indian Wind Energy Sector. Training of Master Trainer batch was completed in October 2025 and 15 Master Trainers were certified. Thereafter ToT Batches commenced from November 2025 to March 2026 and a total of 122 trainers have been trained by conducting 5 ToT batches. We saw an overwhelming response both from Academicians and Industry personnel. Industrial experts from companies like Suzlon Energy, Vestas, Renew Power Ltd., TUV, MITCON, Windcare India Pvt. Ltd., Greenko group, Amrita Engineers, ZF Wind power, Envision, Indutch, AMPIN Energy, TNPL, Winserve Systems Private Limited, Axis Energy Ventures India Pvt. Ltd., Senvion Wind Technology, THDC India Ltd., Flender, ANERT, Reva Westwind Engineer pvt ltd., Tata Steel Foundation, Windleaf Energy Solutions etc. participated in the 12 days ToT program conducted at Courtallum. Academicians from prominent institutions like IIT Delhi, MANIT Bhopal, Anna University, NPTI, NITTTR, Annamalai University and various government polytechnic Institutes also attended the program. The 12 days training program comprised sessions on domain skills, platform skills, field visits and assessment. The Domain Session covered topics on Wind energy Basics, Wind Turbine Components, Aerodynamic Aspects of wind turbine, electrical aspects of wind turbine, wind resource assessment etc. The feedback received from participants was positive and all the sessions were well received by them.

Further, a total of 8 ToP batches have commenced through various training partners. The ToP Program is of 81 days comprising theory and practical sessions, on-the-Job training and assessment. After the completion of ToP program placement support is provided to certified candidates.

Nested Piechart of ToT Programme



Internship Programme

The “NIWE-Academic Associate Programme” (NIWE-AAP) aims to encourage students and provide an opportunity to choose renewable energy as their career option. To create awareness and interest in the field of renewable energy research among the young talented Sciences, Management and Engineering students NIWE invites applications from the eligible candidates for the “NIWE-Academic Associate Programme” (NIWE-AAP).

The duration of the Internship is normally in the range of two weeks to six months. NIWE-AAP will provide opportunities for the graduate / post graduate students / Lecturers / Professors to work with scientists / engineers on NIWE's projects.

From January to March 2026, our internship program saw significant activity. Out of 33 applications received, 17 students successfully enrolled. 12 students are currently in the process of completing their internships.

Officials / Students Visit

To create awareness and to motivate towards research on wind energy, achieving the indigenization and also to create awareness about the activities and services of NIWE, schools and college students are encouraged to visit the campus.

During the period from January – March 2026, 40 officials and 394 students had visited NIWE. The officials had appreciated the presentation and stated that it was a truly enriching experience and also the talk was highlighting the importance of conserving energy in our daily lives.

S.No.	Name of Institution	No. of Students	No. of Staff	Visited on
1	National Productivity Council	16	2	05.02.2026
2	NITTTR, Chennai	24	2	11.02.2026
3	St. Joseph's College of Engineering, Chennai	60	2	12.02.2026
4	St. Joseph's College of Engineering, Chennai	60	2	13.02.2026
5	Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology	60	2	06.03.2026
6	SRM, Ramapuram Campus, Chennai	63	2	23.03.2026
7	SRM, Ramapuram Campus, Chennai	62	2	24.03.2026
8	SRM, Ramapuram Campus, Chennai	53	2	25.03.2026
9	SRM, Ramapuram Campus, Chennai	36	1	26.03.2026



Classroom lecture



Renewable Energy Facility visit at NIWE

IEA Wind TCP: A Strategic Enabler for India's Wind Energy Ecosystem

Author : J.C. David Solomon, Director & Head, R&D Division, WTRS (Incharge) - Email : david@niwe.res.in

As India advances towards its ambitious renewable energy targets, including 500 GW of non-fossil capacity by 2030, the role of globally aligned research, standards, and collaboration has become indispensable. In this context, participation in the IEA Wind Technology Collaboration Programme (TCP) serves as a critical strategic enabler for both NIWE and the broader Indian wind energy ecosystem.

IEA Wind TCP is a unique international platform where governments, national laboratories, and leading research institutions collaborate on advancing wind energy technologies. It facilitates structured knowledge exchange on key areas such as offshore wind, digitalisation, grid integration, advanced turbine technologies, and wind resource assessment. Importantly, it provides access to live, evolving research

discussions, rather than delayed or second-hand information.

For NIWE, this engagement ensures direct access to globally validated methodologies, technical standards, and best practices. These inputs are not theoretical—they directly influence ongoing national programmes, including offshore wind development, LiDAR-based resource assessment, forecasting systems, and digital wind data platforms. NIWE's R&D Vision Document (2025) has, in fact, drawn significant direction from the themes and research trajectories emerging within the IEA Wind TCP, ensuring that India's research roadmap remains aligned with global advancements.

A key but often underappreciated benefit of India's participation is the multiplier effect across



the domestic wind energy ecosystem. Because India is a Contracting Party, Indian stakeholders—including wind turbine OEMs, consultancy firms, developers, and academic institutions—can engage with IEA Wind Tasks (subject to procedures), access international knowledge platforms, and collaborate with global experts. This creates a pathway for Indian industry to benchmark itself against international best practices, adopt advanced tools and methodologies, and enhance the quality of services offered within the sector.

For instance, learnings from IEA Wind Tasks on digitalisation, condition monitoring, offshore design tools, and grid integration can directly improve:

- Performance optimisation of wind farms by OEMs
- Accuracy of resource assessment and due diligence by consultants
- Project planning and risk assessment by developers
- Quality of technical studies and innovation by academic and research institutions

Such open knowledge exchange and dissemination ensure that the entire value chain of the Indian wind sector benefits, not just a single organisation. This collective upliftment is essential as India moves into more complex domains such as offshore wind and hybrid renewable systems.

Equally significant is India's role as an active contributor to global wind energy discourse. Through participation in Executive Committee meetings and Task-level interactions, India brings forward its unique operational and climatic conditions—such as monsoon-driven wind regimes, low-wind-speed turbine deployment, and large-scale grid integration challenges. This ensures that global research frameworks increasingly reflect the realities of emerging markets.

From a strategic standpoint, the value derived from IEA Wind TCP far outweighs the cost of participation. The annual membership contribution enables access to a vast global knowledge base, expert networks, and validated research outputs—resources that would otherwise require significant independent investment. In effect, India is able to leverage global R&D collectively, rather than duplicating efforts in isolation.

In an increasingly interconnected energy landscape, continued participation in platforms such as IEA Wind TCP is not merely beneficial—it is essential. It ensures that India remains technically competitive, globally aligned, and strategically positioned in the rapidly evolving wind energy sector.

IEA Wind TCP thus acts as a bridge between global innovation and national implementation, strengthening not only NIWE's capabilities but also the broader Indian wind energy ecosystem.

