

Renewable Energy Services



Renewable Energy Services

TUV India offers a diverse range of renewable services to IPP, EPC, Lenders, Developers and Owners.

We have a wide-range of expertise in the entire spectrum of Renewable Energy and customized solutions for Wind Resource Assessment (WRA), Design Appraisal, Factory Inspection, Construction Safety and Quality, Project Management Services, Construction Management, Testing and Certification and the optimization of renewable assets from the conceptual phase, to construction, grid connection, operations and maintenance.



Our Services in Wind Energy

Within the field of Wind Energy, TUV India offers services in certification, site assessment as well as inspection, surveillance and advisory activities for wind farms and projects onshore, offshore and repowering assessments of existing assets. Our multidisciplinary proficiency in RFP preparation, EPC selection and evaluation, supply chain management, design engineering, technical, financial, due diligence, health and safety, environmental and land feasibility study, construction and project management provides real values to Customers (Indian and International).

Project Development Services

- Feasibility Study and Yield Estimation
- Detailed Project Report (DPR)
- Energy Yield Validation
- Energy Yield Assessment
- Technical Due Diligence
- On-site inspection service
- Wind Resource Assessment
 - Losses and Uncertainty
- IRR Analysis
 - P50, P75, P90, P99 review



Design Appraisal

- Design Optimization
- Design and Engineering Reviews
- Contract Review

Project Management Services

- Initiation
 - Feasibility Study
 - Tracking of land procurement (TSR, sale deed, lease deed, easement deed)
 - Stakeholder's/Partners Analysis of Project
 - Boundaries of Project
 - Financial modelling, evaluation
- Planning
 - Preparation of L1, L2, L3, L4 schedules
 - Setting Project Milestones
 - Preparation of Report formats
 - Functional and Operational Requirement
 - EPC Evaluation
 - Supplier / Manufacturer Evaluation
 - Factory Acceptance Tests (FAT)
 - Inspection of WTG / BOP components
- Execution
 - Tracking all the necessary permits & clearance
 - Tracking of BOQ/ WBS of Projects
 - Quantity surveying and Billing
 - Resource Allocation/Levelling
 - Site Management
 - Financial control of the project
- Control and Monitoring
 - Project Control
 - Contract Management
 - Measuring Vendors and Contractors Performance & KPIs
 - Reporting Dashboard CPM, PERT, critical path analysis
 - Logistics control
 - Cash flow Monitoring
- Closing
 - Plant Performance Assessment
 - Reviewing of as built drawing, punch points and it's closure
 - Material reconciliation
 - HOTO
 - Assist settlements and contractual claims

Construction Quality and Safety Management Services

- Construction Quality Inspection
- Construction Quality Audit
- Training & Development
- Construction Safety Audit
- Construction/Erection Safety Services

Testing

- Low Voltage Ride Through (LVRT) Testing
- Power Curve Measurement
- Prototype Testing
- Power Quality Testing

Operational and Maintenance

- Residual Life Assessment
- Technical Audit
- Technical Evaluation of Electrical Equipment and Power Evacuation Systems Inspection
- Drone (UAV) based inspection services
- Plant Healthiness Audit

Transaction

- Technical Due Diligence
- Lenders Engineers
- Performance Assessment
- Repowering Assessment
- Energy Generation Validation
- Merges and acquisitions support services



Our Services in Solar Energy

TUV India is committed to assess the performance, quality and safety of Solar PV components. We offer a comprehensive range of testing, inspection, certification and project management services from PV components to PV systems services for planning, design appraisal, construction, operational maintenance and transaction.



Project Development Services

- Feasibility Study and Yield Estimation
- Detailed Project Report (DPR)
- Energy Yield Validation
- Energy Yield Assessment
- Technical Due Diligence
- On-site inspection service
- Solar Resource Assessment
 - Losses and Uncertainty
- IRR Analysis
 - P50, P75, P90, P99 review

Design Appraisal

- Design Optimization
- Design and Engineering Reviews
- Contract Review

Project Management Services

■ Initiation

- Feasibility Study
- Tracking of land procurement (TSR, sale deed, lease deed, easement deed)
- Stakeholder's/Partners Analysis of Project
- Boundaries of Project
- Financial modelling, evaluation

■ Planning

- Preparation of L1, L2, L3, L4 schedules
- Setting Project Milestones
- Preparation of Report formats
- Functional and Operational Requirement
- EPC Evaluation
- Supplier / Manufacturer Evaluation
 - Factory Acceptance Tests (FAT)
 - Inspection of Solar PV / BOP components

■ Execution

- Tracking all the necessary permits & clearance
- Tracking of BOQ/ WBS of Projects
- Quantity surveying and Billing
- Resource Allocation/Levelling
- Site Administration
- Financial control of the project

■ Control and Monitoring

- Project Control
- Contract Management
- Measuring Vendors and Contractors Performance and KPIs
- Reporting Dashboard CPM and PERT critical path analysis
- Logistics control
- Cash flow Monitoring

■ Closing

- Plant Performance Assessment
- Reviewing of as built drawing, punch points and it's clearance
- Material reconciliation
- HOTO
- Asset settlement and contractual claims





Construction Quality and Safety Management Services

- Construction Quality Services Inspection/ Audit
- Training & Development
- Construction Safety Services/ Audit
- Construction/Erection Safety Service

Testing

- IV Curve Test
- Thermal Imaging for PV
- Electro-Luminescence Test

Operational and Maintenance

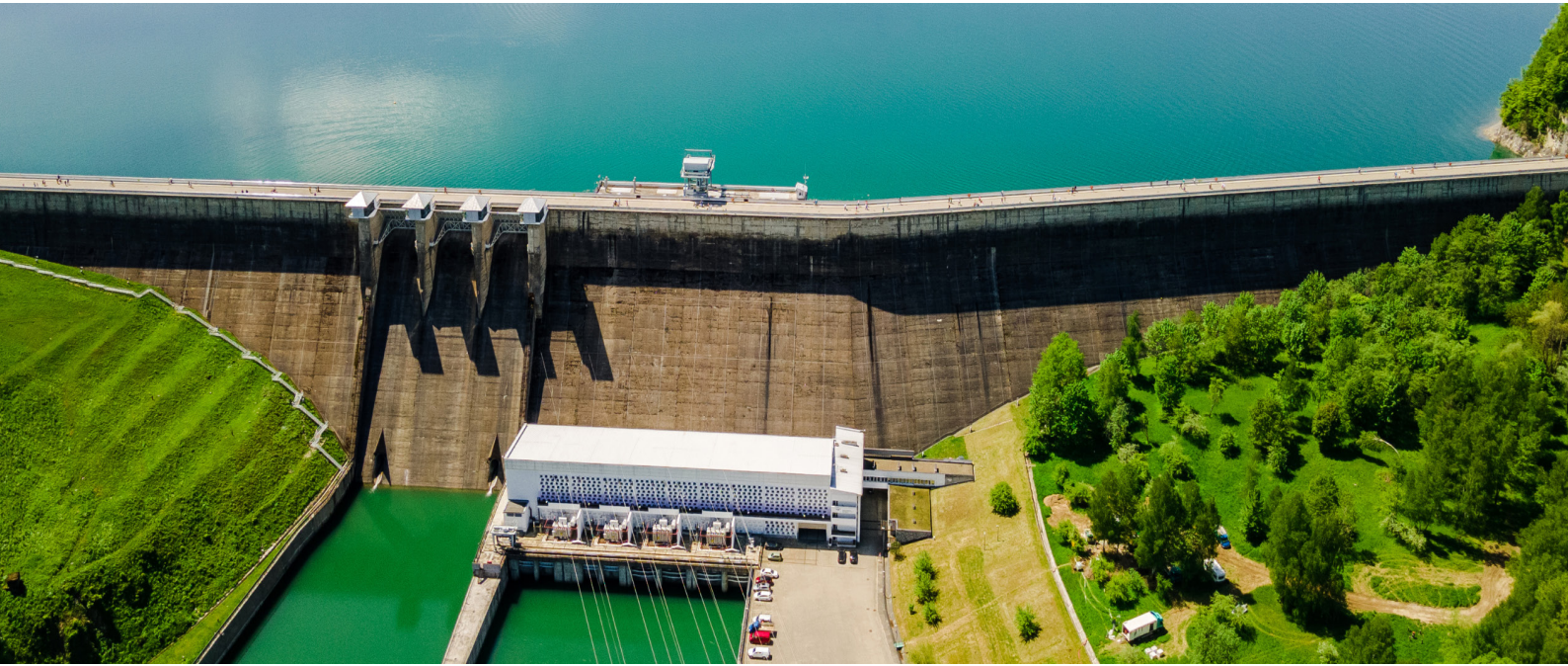
- O&M Evaluation
- Performance Ratio (PR) Assessment
- Technical Evaluation of Electrical Equipment and Power Evacuation Systems Inspection
- Drone (UAV) Based Inspection Services
- Plant Healthiness Audit

Transaction

- Technical Due Diligence
- De-rating Diagnosis
- Energy Yield Review
- Risk Evaluation
- Lenders Independent Engineers
- Performance Assessment
- Energy Generation Validation
- Merges and acquisitions support services

Our Hydro Power Plant Services

TUV India offers services from feasibility studies and assistance in the design phase to commissioning and operations.



Feasibility Studies

Design Review

Planning

- EPC Evaluation
- Supplier / Manufacturer Evaluation
- Factory Acceptance Tests (FAT)

Construction Management

- Construction Quality Inspection
- Construction Quality Audit
- Construction Safety Audit
- Construction Safety Inspection

Technical Due Diligence

Benefits

TUV India is a competent and reliable partner throughout the entire lifecycle of your renewable energy projects with our:

- Pragmatic and result-oriented approach
- Efficient process tailored for short-time to market
- Strong reputation and recognition worldwide

About Us

TUV India Pvt. Ltd. (TÜV NORD GROUP) is a customer-focused, innovative, and independent, technical, quality & safety services organization, dedicated to providing future-proof solutions through technological excellence for the success of its customers with the highest level of integrity. With a presence at over 40 strategic locations in India; a branch office in Sri Lanka and Bangladesh; state-of-the-art laboratories at Pune, Bengaluru, Noida and Jamnagar; 100 important countries worldwide and through digital means, we are always connected to you, our esteemed customer, anywhere, anytime.

We are proud to provide increasing levels of services to the best known, largest global and national companies as well as medium and small industries in diverse sectors like Oil & Gas, Petro chemical, Nuclear, Renewables, Infrastructure, Food, Power, Manufacturing, Chemicals, Pharma, Paper, Automobiles, Railways, Aerospace, Defence, IT, Health, Hospitality, Retail, etc.

Over 1400 competent and experienced TUV India experts spread across India and over 14000 TÜV NORD experts all over the world, enthusiastically support our clients by providing value-added services in Industry Inspection, European / International Approvals, Management System & IT Certification, Sustainability, Energy Audit, Water Audit, Carbon Services, Building Infrastructure & PMC, Renewable Energy, Food & Packaging Testing, Food Certification & Inspection; Testing of restricted and banned chemicals in Automotive and Electrical & Electronics components and other regulated industries, Product Testing — Electricals, Electronics and Industrial Machinery; Product Certification; Petroleum, Chemicals & Gas Cargo Inspection; Petroleum, Chemicals & Gas Testing; Railway Technology; Engineering, Safety Studies, and knowledge enhancing training programs under TUV India Training Academy.

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Our Services Portfolio

- Industrial Inspection
- Management Systems & IT Certification
- Building, Infrastructure and Project Management
- Renewable Energy
- Railway Technology
- Food Certification and Inspection
- Petroleum, Chemical and Gas Cargo Inspection
- Product Certification
- Product Testing Laboratory for Electronics, Electricals, Machinery & Industrial, Automotive Batteries
- Food and Packaging Testing
- Advanced Chemical and Material Testing
- Petroleum, Chemical and Gas Testing
- Training Academy