

Renewable Energy Services



Empowering Trust™



Renewables

Empowering trust in renewable energy

UL works to help the energy industry mitigate risk and navigate complexity associated with renewable resources. We have become a trusted advisor by providing access to proven science and expert engineering, and by offering innovative solutions to meet the unique challenges of the renewable energy industry. We pride ourselves on being accessible, flexible, and keenly responsive to the needs of our clients, and helping them to reduce humanity's global carbon footprint and generate healthy financial returns.

UL now delivers an extensive portfolio of renewable energy services, following the acquisition of AWS Truepower (2016). We support wind and solar projects, battery and energy storage systems, and e-mobility, and our services encompass testing, inspection, certification, verification, auditing, training, and expert advice from project inception to decommissioning. Our goal is to empower trust throughout the project lifecycle and across the supply chain.

UL OPERATES IN
MORE THAN
143
COUNTRIES



55+
YEARS OF
COMBINED
EXPERIENCE
IN RENEWABLES

200,000+ MW
TOTAL MEGAWATTS (MW) ASSESSED

500+ RENEWABLE
ENERGY EXPERTS



ADVISED 90%
OF THE INDUSTRY'S TOP PROJECT
DEVELOPERS AND PLANT OWNERS



INDEPENDENT/OWNER'S
ENGINEER FOR
450+
WIND & SOLAR PROJECTS
SINCE 2012

FORECAST PROVIDER FOR
72+ GIGAWATTS
OF INSTALLED RENEWABLE
ENERGY PROJECTS



WIND ENERGY



SOLAR ENERGY



BATTERIES & ENERGY
STORAGE



E-MOBILITY

We help renewable energy customers with:



PROJECT DEVELOPMENT SUPPORT

Navigate project complexities in the earliest stages of development.

- Site Screening and Feasibility
- Turnkey Measurement Services (Met Masts and Remote Sensing)
- Resource Assessment
- Plant Design and Energy Assessment
- Technology Selection and Suitability
- Infrastructure and Balance of Plant
- Permitting Support and Environmental Assessment



SOFTWARE AND DATA

Leverage the knowledge and expertise of our experts and enable your team to work independently.

- Windographer
- Openwind
- Windnavigator
- Wind Data Management
- Resource Maps
- Time Series Datasets
- Site Specific Reports



ASSET MANAGEMENT

Manage expectations of operational plants and improve performance, including safe and reliable operations of wind projects beyond the original design life.

- Operational Energy Assessments
- Performance Analysis
- Plant Performance Optimization
- Remote Sensing / Lidar for Turbine Diagnostics
- Turbine Inspections
- Root Cause Analysis
- Lifetime Extension / Remaining Useful Life
- Loads Simulations
- Components Evaluation



GRID SOLUTIONS

Understand renewable energy variability and the impact of weather-driven events:

- Real-Time Renewable Forecasting
- Grid Management and Planning Services
- Atmospheric Modeling and Applied Research



ENERGY STORAGE SOLUTIONS

Address safety concerns for large battery systems for wind and solar integrators and OEMs.

- Testing and Certification
- Performance Testing
- Custom Research



DUE DILIGENCE

Mitigate the risks associated with renewable energy project investment:

- Independent Engineering
- Technical Advisory
- Pre-Construction, Operational and Repowering Projects
- Custom Support for Investors, M&A, Tax Equity
- Turbine Technology, Civil and Electrical Design Review
- Contracts Review
- Environmental Permitting Review
- Financial Model Review
- Construction Monitoring
- Owner's Engineer



CERTIFICATION

Confirm compliance and provide assurance and confidence in wind technology.

- Certification of Turbines and Components
- Project Certification
- Grid Code Compliance
- Assessment of Construction and Foundations



TESTING AND INSPECTION

Verify the safety, reliability, performance and compliance of wind turbines and components.

- Validation and Type Testing
- Mechanical Loads
- Power Performance Testing
- Electrical Characteristics
- Low Voltage Ride Through Testing



CYBERSECURITY

Help validate and substantiate security claims, meet regulatory requirements and mitigate risks of cyber incidents.

- Training
- Custom Security Testing
- Penetration Testing
- Code Review
- Risk Analysis
- Gap Analysis



RESEARCH AND ADVANCED STUDIES

Research in electrical safety, renewable resource characterization, plant design, energy estimation and real-time forecasting.

- Custom Research
- Market Studies

Key Office Locations



AFRICA

Johannesburg, SOUTH AFRICA

ASIA PACIFIC

Beijing, CHINA
Suzhou, CHINA
Bangalore, INDIA
Ise, JAPAN
Tokyo, JAPAN
Seoul, KOREA

EUROPE

Lyon, FRANCE
Bremen, GERMANY
Cuxhaven, GERMANY
Hamburg, GERMANY
Oldenburg, GERMANY
Wilhelmshaven, GERMANY
Milan, ITALY
Ansoain (Navarra), SPAIN

Barcelona, SPAIN

Izmir, TURKEY

London, UNITED KINGDOM

LATIN AMERICA

Buenos Aires, ARGENTINA
São José dos Campos, BRAZIL
Rio de Janeiro, BRAZIL
Bogotá, COLUMBIA
Mexico City, MEXICO

NORTH AMERICA

Albany, New York, UNITED STATES
Northbrook, Illinois, UNITED STATES
San Diego, California, UNITED STATES
San Jose, California, UNITED STATES

[UL.com/Renewables](https://www.ul.com/Renewables)