

# Renewable Energies Services

Applus+ renewable energy services aim to assist clients through all the phases of a renewables project. We verify the correct installation of all the components for the renewable energy construction, such as in solar parks and wind farms. Our services support feasibility assessment, project design, and development through to the construction of a new site, and are delivered in accordance with existing codes and standards, evaluating the status of the working plant and auditing its maintenance process.



## THE Applus+ SOLUTION

Applus+ is a leader in global renewable energy solutions and our multi-disciplinary teams of specialist in renewable energies services assist clients throughout asset's life-cycle.

**Feasibility assessment:** Met mast set-up and monitoring; Wind and Solar resources assessments (Energy production studies); Geotechnical studies; Preliminary Feasibilities assessments; Policy and Regulatory guidance HSE (SALEM); and Conceptual Design (Pre-Studies: environmental, basic layout, grid connection point, basic project cost budgeting and planning)

**Project design and development:** Permitting Studies; Conceptual Design; EIA; Grid connection point; Power Quality; Contractual Support (Energy production studies); Request for Proposal and Terms of Reference definition and review; EPC and OMS contracts support, including technical specification and bidding evaluation; Purchase Power Agreement (PPA) and Liquidated Damages consultancy; Policy and Regulatory guidance HSE (SALEM - Environmental Impact Assessment/ Health and Safety plan); and Grid connection studies, Basic and Detailed Engineering, Technical Due Diligence and Independent-Lender Engineering

**Construction and commissioning:** Owner Engineering Contract (full management level, site management level or technical staffing level); Quality Assurance/Quality Control services; Storage and Logistical Support; Mechanical, Electrical and Civil works construction supervision; Commissioning technical support; EHS services; Vendor Surveillance; and Technical Due Diligence

**Operation and Maintenance:** Operations; Historical Operation Review (power, alarms, warning, trips, etc.); Plant Performance Ration assessment; Power Performance Analysis (statistical study or under EN 61400-12); Full Wind Turbines and Blade maintenance inspection; Mechanical inspection (gearbox videos-copy inspections, including oil analysis, general overview inspection, steel structures, welds, paint, corrosion); Predictive maintenance (Generator Isolation Dielectric Testing (TGW), transformers /cables/substations and including Relay Protection Systems, Thermography Inspections and Predictive Maintenance Service based on Vibrations Measurement and Analysis); Technical Due Diligences and ad-hoc technical maintenance inspections; and Technical Audits and Technical Forensics

## Target customers

Applus+ provides renewable energies services to support both owners and investors in renewable energy assets (wind farms, photovoltaic plants, concentrated solar plants, etc.). Our vast experience in asset integrity management helps clients to protect their interests during the construction of an asset as well as in operation. Our services to support renewable energy construction also assist engineering and construction companies involved in renewable energy projects to improve the final result through a focus on quality control.