

JOB DESCRIPTION

Position Title	Manager - Renewable Resource
Superior Position Title	General Manager - Operations (Renewables)
Company/ Business Unit	Apraava Renewable Energy Pvt. Ltd.
Division / Department	Resource Analysis
Location	Mumbai

1. JOB PURPOSE

Business Context: Apraava Energy is a diversified power company, jointly owned by the CLP Group - one of the largest investor-owned power businesses in Asia and Caissede dépôt placement du Québec (CDPQ) - a global investment group.

Our portfolio comprises 3,150 MW of installed capacity which includes 924 MW of wind and 250 MW of solar energy projects across seven states, a 1320 MW coal-fired super critical power plant and two power transmission assets. We forayed into Advanced Metering Infrastructure (AMI) by winning the first project in Assam to install smart meters in 693,077 households.

The name Apraava Energy has been derived from the Sanskrit language and is an amalgamation of four elements: Agni (Fire), Prithvi (Earth), Ambu (Water) and Vayu (Wind).

Apraava Energy was one of the first company to identify the potential of renewable energy in India. The company entered this space by building its first wind farm in 2009. Since then, Apraava Energy has gradually grown its wind energy portfolio and is now spread across six states generating nearly 1,000 MW and another 250 MW of committed capacity. Wind energy has been an integral part of Apraava Energy's business strategy. It is expected to continue making a vital contribution not only to Apraava Energy's growth plans for India but also to its commitment towards reducing its CO2 emissions.

Apraava Energy forayed into solar power generation with a 100 MW plant in 2016 through a joint venture in Veltoor, Telangana. Apraava Energy acquired two more solar plants in 2018. In 2020, Apraava Energy increased the size of its solar energy portfolio by more than 70% by entering into an agreement to acquire three of its solar projects. The latest addition to Apraava's solar portfolio was a 250 MW solar farm in Dedasari, Rajasthan in 2021.

In line with Apraava Energy's vision of investing in a low-carbon and clean energy portfolio, Apraava Energy marked its entry into the power transmission sector in 2019 with the acquisition of 240 km transmission line. With this, Apraava Energy has broadened its portfolio to straddle two out of the three main segments in India's power value chain. In December 2021 Apraava Energy acquired a 254 km Transmission line from Kalpataru-Mariani Transmission Limited passing through 3 states in North- East India i.e. Manipur, Nagaland and Assam.

The company has also built a 1,320 MW supercritical coal-fired power plant in Jhajjar, Haryana. The Jhajjar Power Plant has been commercially operational since mid-2012. It is one of the first few power plants in India to operationalize the Flue Gas Desulphurization (FGD) unit which helps reduce ~ 85% of SO2 emissions.

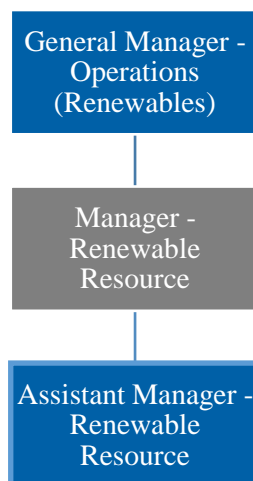
The plant has also won the Frost & Sullivan and TERI Jury Special Mention Award in 2019 for reducing its specific water consumption to 2.11 m³/ MWh against a statutory limit of 3.5 m³/ MWh.

The Organization is engaged in Greenfield development of Power Generation/Transmission assets as well as their Acquisition. The business objectives in either case can be met only if the asset performs to the business assumptions. Engineering plays a key role in translating that business assumptions into engineering designs which can make sure that business objectives are met sustainably.

The organization is further diversifying into Power distribution business including Advanced Metering business. This would uniquely position organization's presence across the entire power sector value chain.

Job Purpose: Support accurate wind and solar resource assessment to ensure feasibility of installation of power generation units with the objective of increasing the MW capacity for Aprava Energy and improving profitability/revenues. This role is also responsible for analyzing wind and solar plant equipment performance pre- and post-project construction to ensure high power generation efficiency.

2. ORGANISATIONAL CHART



3. PRINCIPAL ACCOUNTABILITIES

Accountabilities	Major Activities
Support strategy formulation and budgeting for the Renewables business to drive increased profitability/revenues	<ul style="list-style-type: none"> ▪ Manage resource data of Renewable power generation of operations wind & Solar assets to collate data to be used as inputs in supporting Renewables strategy and annual business plan formulation ▪ Support business opportunity evaluation checking for feasibility of the project by assessing on-site resource availability for the site under consideration ▪ Track performance against budgets/business plan and provide monthly updates to the Department Head – Technical Analysis on deviations from the plan along with rationale for the same ▪ Ensure internal/external audit preparedness by timely collation and maintenance of required documents
Oversee performance assessment of individual generating units at operating sites to ensure high power generation efficiency with the objective of increased asset profitability	<ul style="list-style-type: none"> ▪ Supervise performance assessment of the wind & Solar assets prior to and post construction ▪ Coordinate with external consultants seeking support in performance analysis (if and where required); organize site visits and ensure timely provision of required data to the consultants ▪ Conducting detailed performance and data analysis for individual turbines and Invertor/PV modules -identifying trends in performance behaviour, generation, failure etc.; seek approval from the Department Head-Technical Analysis on the same ▪ Study analysed data for deviations in power generation levels from estimated levels and conduct a Root Cause Analysis to provide inputs to the senior in successfully tackling the deviations ▪ Support in validation of performance of wind turbines with vendor guarantees and apprise senior to help take suitable action on deviations if any

	<ul style="list-style-type: none"> ▪ Interact with site teams on issues with machines and provide options for action items; monitor implementation of agreed action plan ▪ Support predictive analysis of equipment to minimize down time due to failure thereby ensuring consistent plant availability ▪ Support initiatives to monitor supply of power from grids, highlight disputes with Department Head - Technical Analysis and solicit corrective action
Conduct accurate resource assessment with the objective of increasing renewable power generation capacity and ensuring project profitability	<ul style="list-style-type: none"> ▪ Coordinate with the developer to ensure collection of wind mast data and other inputs (e.g. power curve, contour maps, roughness maps etc.) at pre-defined intervals ▪ Conduct quality checks on collected data and input the same in software for generation of resource availability trends (long term wind speed and its variations, direction, duration etc.) ▪ Basis available inputs and renewable (wind & solar) resource availability trends, estimate energy production (at considered site); collate analysis into comprehensive reports ▪ Collaborate with external consultants for support in resource assessment comparing reports for checking for deviations and timely addressing the same ▪ Present feasibility study basis analyzed resource data to management thereby supporting business opportunity qualification ▪ Support similar due diligence for solar resource assessment
Drive timely collection and qualification of data from project sites to ensure accuracy of analysis with the objective of safeguarding Apraava Energy's business aspirations	<ul style="list-style-type: none"> ▪ Collate and maintain collected data for qualification for accuracy ▪ Ensure use of suitable software for data and trend analysis; check output for any disturbance and consult Department Head – Technical Analysis for inputs for judgement on the same ▪ Review documentation created by Support – Technical Analysis to qualify gathered information and check for accuracy of analysis ▪ Maintain mutually beneficial relationships with 3rd party consultants, forecasting agencies, vendors/service providers for support with forecasting power generation, revenues of each operating site etc.

4. MAJOR CHALLENGES

<ul style="list-style-type: none"> ▪ Coordinating with developer for timely collection of mast data and other inputs
<ul style="list-style-type: none"> ▪ Low degree of automation to manage large volumes of data to produce meaningful output
<ul style="list-style-type: none"> ▪ Geographic spread of Wind & Solar Assets

5. DECISIONS

Recommendations to or approval by superior

Feasibility (in terms of wind resource availability assessment) for new business opportunities

6. INTERACTIONS

Internal Clients

Roles you need to interact with inside the organization to enable success in your day-to-day work
Senior Vice President - BD & Commercial (Renewables) – support on feasibility study for new business opportunities
Finance Team – budget approvals
IT Team – support in automation of processes, implementation of software and applications

Group Internal Audit – ensure compliance to Apraava Energy guidelines and policies

External Clients

Roles you need to interact with outside the organization to enable success in your day-to-day work
Wind farm developers – Support on collecting mast data and other wind resource inputs
OEM contractors – Support on equipment performance data
Service Providers/3 rd party consultants – Availability of cost effective and superior services

7. DIMENSIONS

Financial Dimensions

- OPex (2023- 24) ~ INR 3.25 Cr
- CAPex (2023-24) ~ INR 6.5 Cr
(includes purchasing and upgradation of software, MET mast installation)

Other Dimensions

- Team Size: 1

8. SKILLS AND KNOWLEDGE

Educational Qualifications

- Mandatory Qualification: B.E./B. Tech. Electrical/Mechanical/Electronics/M.Sc. Atmospheric Science /Meteorology

Functional Skills

- Understanding of operations/key processes of Wind and Solar Farms
- Knowledge of wind and solar resource assessment
- Knowledge of wind and solar plant equipment
- Understanding of software such as WAsP Engineering, WindFarmer, windPRO, CFD, Windographer
- Basic atmospheric and meteorological knowledge
- Up to date with latest technology in the renewables industry
- Commercial understanding of the functioning of the Apraava Energy India business
- Understanding of financial management
- Planning and analytical skills, ability to take a long-term perspective

Relevant and total years of Experience

- Total Experience: 10 - 12 years in wind resource assessment