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STALWARTS OF THE INDIAN SOLAR SECTOR

AN INSIGHT ON THE 5 COMPANIES CONTRIBUTING TO THE GROWTH OF SOLAR SECTOR IN INDIA

▶ Optimize Output and Profitability of a Solar Plant *p64*

▶ Solar Energy Measurement and Management Techniques *p34*

▶ Microcell Carbon Foam Batteries for PV Applications *p36*

▶ Effective use of SCADA System in Solar Plants *p60*

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DELIVERING ON THE PROMISE OF CLEAN ENERGY

Innovation is etched in the ethos of ACME and Manoj Kumar Upadhyay- Founder, Chairman and Managing Director, ACME Group with several patents to his credit has successfully established ACME Group as a leading energy solution provider in India and Africa.



On May 6th 2016, Renewable energy firm ACME won bids for developing 200 mw solar power projects under auctions conducted by SECI and NTPCBSE in Andhra Pradesh and Telangana. ACME won the largest share of 150 mw out of 400 mw at fixed tariff of Rs 4.43 per unit in addition to Viability Gap Fund of Rs 55 lakh per mw. The bagging of this tender, expands the overall portfolio of ACME Solar to 1654 MW and growing. This achievement should not be viewed lightly by any means, ACME reached this incredible height under the guidance of its founder, Mr. Manoj Kumar Upadhyay in mere 14 years. This is the story of ACME's journey to the top.

ACME Group is a leader in the field of clean energy with opera-

tions in solar power generation, lithium-ion based energy storage solutions and energy management of telecom towers in India. The company prides itself as a pioneer in the development of green technology solutions that are environment friendly, energy efficient, & cost effective. Mr. Upadhyay, established ACME to provide radically new technology solutions through intensive research and development in a market where it is common to just introduce new solutions by making incremental changes to existing technologies. His visions have transitioned ACME to a leading solar power developer in India with an increasing global footprint.

As of today ACME's commissioned project stands at 700 MW DC and is committed to develop

7500 Mega Watt (MW) of Renewable Energy Projects during the five year period of 2015-19. Besides generating 12000 Million Units of green and clean power annually, these projects will also create employment for around 4000 persons, directly and indirectly and prevent Carbon Emissions of around 10000 MT per year. ACME highly regards being an early entrant in the Indian solar sector helped to achieve its planned growth. The large knowledge base accumulated over the years significantly help ACME to introduce disruptive solutions, thus shaking up the sector by implementing many new initiatives first time at large scale in India.

ACME mainly attributes its success to factors such as:

➤ **Design:** Its PV plants have been designed with optimum design engineering. The PV modules and Inverters are chosen of Tier 1 Manufacturers having global foot prints with financially sound balance sheet. Detailed technical and commercial diligence is prepared of similar specification of products from other Manufacturers.

➤ **Vendor Management:** Majority of the BOS items are sourced through the competent suppliers and deployment is done through the vendors who have pan presence in India and established credentials in their field of competency. The installation team, suppliers / vendors are provided



with necessary training to impart skill set as per the project need and design philosophy.

➤ **Effective Management:** The entire supply and deployment arrangement is planned and monitored at very minute level on daily basis.

➤ **Innovative Solutions:** Seasonal PV module tracking arrangements have helped to reduce the DC capacity for about 10% along with reducing BOS cost. Selection of the project locations near to GSS has reduced the Transmission line length and losses in account to power transmission. Implementation of Pooling Substation arrangement has helped to avoid the need of multiple bay requirements at GSS end, thus reducing multiple transmission lines with towers and also multiple project consolidated in a single location.

Through such innovative and disruptive ideas, ACME has been at the forefront of the solar sector scenario in the country by leading at the competitive bids at the Central Government and the State Government led bids, which translates to cost effective power to the end consumers. The awards won over the years namely India Solar Week Excellence 2016 Awards, CBIP Awards, Renewable Energy India Award 2015, Global Solar Energy Award 2014 are a testament to its success.

In last four years, ACME has been focusing on building new generation utility using solar energy and energy storage solution based

on Lithium-ion Technology. These solutions are viewed as a game changer in the energy sector as the conventional technologies are highly polluting as they are based on Lead Acid & Diesel consumption. Energy Storage is also one of the key focus areas of ACME and they are developing various customized solutions to meet application specific requirements. Further, the company is working towards building a new generation utility based on natural resources where power is generated & distributed based on consumption and behaviour of society.

The Indian solar sector is going through a very interesting transient phase and as the sector is getting more competitive, with aggressive bids quoted, there is a general fear in the actual realization of these prices. However Mr. Upadhyay is very optimistic and believes we should not get carried away with such numbers.

Nonetheless, he does identifies that there are some issues which are impending the growth of



EcoGrid - India's first Lithium-Ion based Energy Storage System

the sector and hence require immediate attention. One of the main concerns are the stipulated timelines of commissioning in the PPA. As such these timelines are very aggressive. Most of the projects needs to be commissioned within 12-15 months of signing the PPA. Many real concerns are not

taken into consideration such as Solar Power Plants are land intrinsic projects and require mostly rural wasteland. Whereas, data

of most of the rural have not been updated in the revenue records. In view of this, land acquisition becomes a huge challenge.

Second, availability of the lender. Most of the lenders in this sector are Public Sector lenders who are attuned to lending large thermal power projects. Financial closure of conventional power project, wherein gestation period is around 3-4 years, can be achieved over the horizon of 12-14 months and disbursement thereafter. However, financial closing of Solar Power Projects needs to be achieved within 3-5 months to enable the project commissioned within 12-15 months as per the PPA. Mr. Upadhyay also adds that the biggest challenge for the industry in general is to manage the evacuation of the renewable plants, which is intermittent in nature. The kind of volumes getting added into the grid, grid safety would be of paramount importance. Therefore, the scheduling also needs to be as accurate as possible.

Granting all these issues, Mr. Upadhyay adds that the intent of Government of India is very clear and the kind of support which this sector has been receiving is phenomenal and the thrust is not only on the policy framework but also on the implementation.

Innovation is etched in the ethos of ACME, it strives to provide sustainable solutions in Energy Conservation, Energy Management, Energy Generation and Energy Storage. Against many odds, ACME has led the Indian solar by focusing on green technology and needs of the society and hence coming out with indigenous solutions to cater to these needs ■