

SOLAR POWER PLANT PROFILE



AVANT-GARDE ENGINEERS AND CONSULTANTS (P) LTD

(AN ISO 9001:2015 AND ISO 17020:2012 ACCREDITED ORGANISATION)

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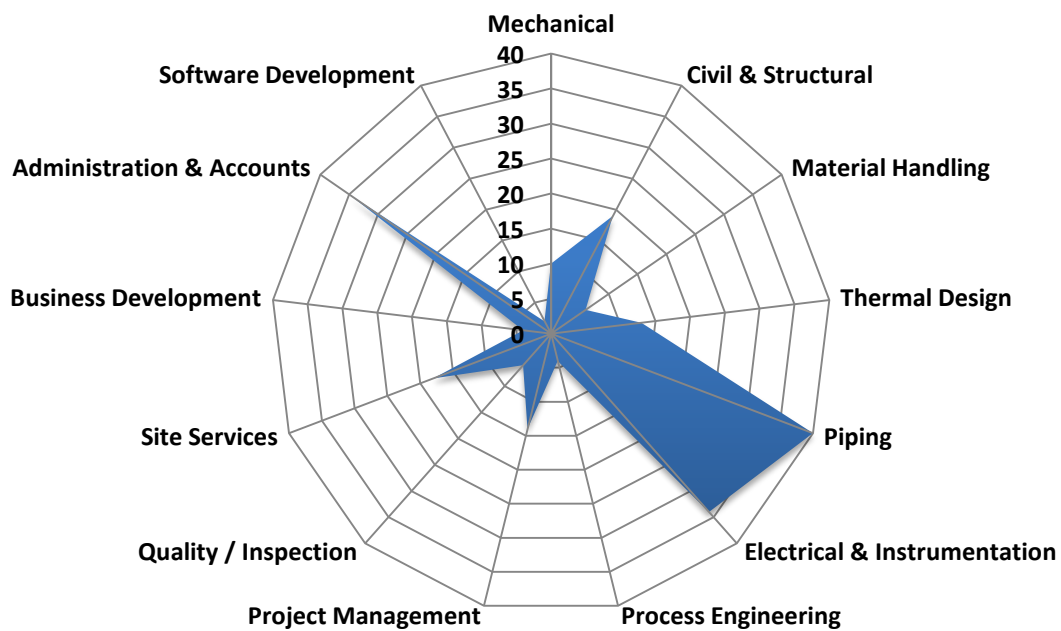


INCEPTION

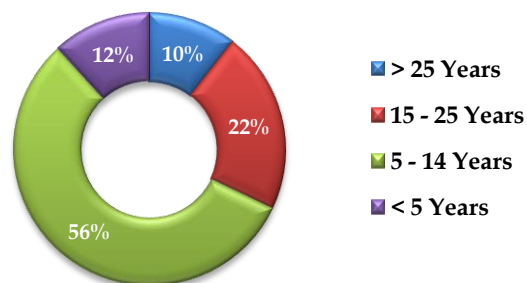
- ❖ YEAR OF ESTABLISHMENT - 1990

STAFFING

- ❖ MULTI DISCIPLINARY TEAM COMPRISE OF MORE THAN 200 WORKFORCE



YEARS OF EXPERIENCE



CONTACT PERSON

- ❖ P.S. SANKARANARAYANAN, DIRECTOR

SERVICES OFFERED FOR SOLAR POWER PLANTS

BASIC ENGINEERING

- Site assessment and Due-diligence report
- PV Yield Analysis
- Bankable Detailed Project Reports

DETAILED ENGINEERING

- Plant Layout
- DC & AC Side Electrical detailed engineering
- Module Mounting Structure Design
- Plant Building design
- Foundation Design
- Cable routing, Plant earthing & lightning protection
- Monitoring System & SCADA
- Module Cleaning System
- AC & Ventilation System
- Substation detailed engineering

OWNER'S ENGINEERING

- Review & Design Validation
- Procurement assistance & technical evaluation

PROJECT MANAGEMENT & SITE SUPERVISION

- Project Engineering and Co-Ordination services
- Inspection services at Factory / site
- Supervision of Erection and Commissioning
- Site Project Management Services

OTHER AREAS OF OPERATION

- Steam generator design and engineering
- Waste heat recovery systems
- Combined cycle power plants
- Sugar plant consultancy
- Distillery Plants consultancy
- Water and Waste Water treatment plants
- Process piping
- Third party inspection services
- Residual Life Assessment
- Energy Audit
- Engineering software development

SOLAR PV PROJECTS EXPERIENCE PROFILE:

A. DETAIL ENGINEERING PROJECTS

S.No	Solar PV Project	Client & Commissioned Details	
		Client	Commissioned Details
1.	2X50 MW PV, Seasonal tilt A/c. NTPC, Mandsaur, Madhya Pradesh	Lanco Solar Energy Pvt Ltd., Gurgaon	Under Implementation
2.	50 MW PV, Seasonal tilt A/c. NTPC, Mandsaur, Madhya Pradesh	Vikram Solar Pvt Ltd., Kolkata	Under Implementation
3.	10 MW PV, Single Axis Tracker in Welikanda, Sri Lanka	Solar One Ceylon (Pvt) Ltd, Sri Lanka	Under Implementation
4.	10 MW PV, Single Axis Tracker in Welikanda, Sri Lanka	Vydexa Lanka Power Corporation (Private) Ltd, Sri Lanka	Under Implementation
5.	2X10 MW PV with Single axis in Hambantota, Sri Lanka	Gamesa Renewable Private Limited, Chennai	Under Implementation
6.	18 MW PV, Single Axis Tracker in Pakistan	Harappa Solar (Private) Limited, Pakistan	Under Implementation
7.	7 MW PV Solar Park development in Telangana	Relisol Radiance Power Private Limited	Under Implementation
8.	2.2 MW, Single Axis Tracker in Karnataka	CBPUR Renewable Energy Projects Pvt Ltd.,	Under Implementation
9.	20 MW Solar PV with 66kV Switchyard in Pavagada, Karnataka A/c. Atria	Oriano Clean Energy Pvt Ltd	Mar 2016
10.	9 MW Solar PV Park in Dindigul, Tamil Nadu	SJ Engineers Renewable Energy (P) Ltd.,	Mar 2016
11.	5MW in Aruppukottai, Tamil Nadu	Shree Saasthaa Wet Grinders, Coimbatore	Mar 2016
12.	5MW with Seasonal Tilt in Kurnool, Andhra Pradesh	Panacorp Power Solutions Pvt Ltd	Dec 2015
13.	5 MW with Seasonal Tilt Solar Park in Aruppukottai, Tamil Nadu	SJ Engineers Renewable Energy (P) Ltd.,	Sep 2015
14.	1.2 MW with Seasonal Tilt at Kanadukathan, Tamil Nadu	Visalam Energy Pvt. Ltd, Chennai	Sep 2015
15.	3.3 MW with Seasonal Tilt in Sivagangai Dist, Tamil Nadu	SRL Green & Clean Power Private Ltd, Chennai	Sep 2015

S.No	Solar PV Project	Client & Commissioned Details	
16.	5MW at Faridabad, Haryana A/c. NTPC	Tecpro Systems Limited, Chennai	Mar 2014
17.	1 MW with Seasonal Tilt in Vedasenthur, Tamil Nadu	Ultracosmic Solar Energy Pvt Ltd	Dec 2013
18.	40 MW PV (Thin Film Technology) in Pokran, Rajasthan	Larsen and Toubro Ltd, Chennai	Mar 2012
19.	20 MW Kiran Energy, Patan, Gujarat	Larsen and Toubro Ltd, Chennai	Feb 2012
20.	10 MW Millenium with Dual Axis Tracker in Dhama, Gujarat	Larsen and Toubro Ltd, Chennai	Mar 2012
21.	25 MW in Patan, Gujarat	Larsen and Toubro Ltd, Chennai	Mar 2012
22.	5 MW in Phalodi, Rajasthan	Larsen and Toubro Ltd, Chennai	Feb 2012
23.	6 MW Sun Clean in Patan, Gujarat	Larsen and Toubro Ltd, Chennai	Mar 2012
24.	1 MW in Shirohi, Rajasthan	Larsen and Toubro Ltd, Chennai	Mar 2012
25.	1 MW in Jhansi, Uttar Pradesh	Larsen and Toubro Ltd, Chennai	Mar 2012
26.	1 MW in RREC, Rajasthan	Larsen and Toubro Ltd, Chennai	Mar 2012

B. OWNER'S ENGINEERING PROJECTS:

S.No	Solar PV Project	Client & Commissioned Details	
1.	50 MW PV, Single Axis Tracker in Karnataka	Yarrow Infrastructure Ltd, Delhi	Under Implementation
2.	100 MW PV Project 220kV Substation in Telangana	Suzlon Energy Ltd., Pune	Under Implementation
3.	15 MW in Dindigul District, Tamil Nadu	Vedhaah Power Pvt Ltd	Mar 2016
4.	10 MW in Dindigul District, Tamil Nadu	Vedhaah Green Power Pvt Ltd	Mar 2016

S.No	Solar PV Project	Client & Commissioned Details	
5.	15 MW in Pudukkottai, Tamil Nadu	Edison Energy India Pvt Limited., Chennai	Mar 2016
6.	2 MW in Pudukkottai, Tamil Nadu	Edison Energy India Pvt Limited., Chennai	Mar 2016
7.	5 MW in Pudukkottai, Tamil Nadu	Power Trading India Pvt Ltd., Chennai	Mar 2016
8.	2MW Solar PV, Single Axis Tracker in Solapur, Maharashtra.	Namrata Services Pvt Ltd., Pune	Feb 2016
9.	1MW Solar Plant A/c. ICRISAT	ICRISAT, Hyderabad	Dec 2015
10.	1MW Solar PV in Virudhunagar Dist., Tamil Nadu	Rigel Energy Management Pte Ltd., Singapore	Dec 2014
11.	5 MW in Phalodi, Rajasthan	Sun Edison Energy India Pvt Ltd	Feb 2012
12.	25 MW in Patan, Gujarat	Sun Edison Energy India Pvt Ltd	Mar 2012
13.	10 MW Millenium with Dual Axis Tracker in Dhama, Gujarat	Sun Edison Energy India Pvt Ltd	Mar 2012
14.	24 MW NSM, Phalodi, Rajasthan	Sun Edison Energy India Pvt Ltd	Feb 2013
15.	18 MW in Tirunelveli, Tamil Nadu	Sun Edison Energy India Pvt Ltd	Feb 2014

C. PROJECT MANAGEMENT CONSULTANCY SERVICES:

S.No	Solar PV Project	Client & Commissioned Details	
1.	10 MW Millenium with Dual Axis Tracker in Dhama, Gujarat	Larsen and Toubro Ltd, Chennai	Mar 2012
2.	25 MW in Patan, Gujarat	Larsen and Toubro Ltd, Chennai	Mar 2012
3.	5 MW in Phalodi, Rajasthan	Larsen and Toubro Ltd, Chennai	Feb 2012
4.	6 MW Sun Clean in Patan, Gujarat	Larsen and Toubro Ltd, Chennai	Mar 2012
5.	1 MW in Shirohi, Rajasthan	Larsen and Toubro Ltd, Chennai	Mar 2012

S.No	Solar PV Project	Client & Commissioned Details	
6.	1 MW in Jhansi, Uttar Pradesh	Larsen and Toubro Ltd, Chennai	Mar 2012
7.	1 MW in RREC, Rajasthan	Larsen and Toubro Ltd, Chennai	Mar 2012
8.	5 MW Solar PV Plant near Jodhpur, Rajasthan	OPG Power, Chennai	Feb 2012
9.	5 MW Solar PV Plant near Jodhpur, Rajasthan	SWISS Park, Chennai	Feb 2012
10.	1 MW Narmada Canal Top, Gujarat	Sun Edison Energy India Pvt Ltd	Apr 2012
11.	5MW at Faridabad, Haryana A/c. NTPC	Tecpro Systems Limited, Chennai	Mar 2014
12.	31 MW with Single Axis Tracker in Sitamau, Madhya Pradesh	Sun Edison Energy India Pvt Ltd	Jun 2015
13.	23 MW Solar PV Plant in Sitamau, Madhya Pradesh A/c. Focal Energy	Sun Edison Energy India Pvt Ltd	Jun 2015
14.	1.2 MW with Seasonal Tilt at Kanadukathan, Tamil Nadu	Visalam Energy Pvt. Ltd, Chennai	Sep 2015
15.	5MW in Aruppukottai, Tamil Nadu	Shree Saasthaa Wet Grinders	Mar 2016
16.	15 MW in Dindigul District, Tamil Nadu	Vedhaah Power Pvt Ltd	Mar 2016
17.	10 MW in Dindigul District, Tamil Nadu	Vedhaah Green Power Pvt Ltd	Mar 2016
18.	15 MW in Pudukkottai, Tamil Nadu	Edison Energy India Pvt Limited., Chennai	Mar 2016
19.	2 MW in Pudukkottai, Tamil Nadu	Edison Energy India Pvt Limited., Chennai	Mar 2016
20.	5 MW in Pudukkottai, Tamil Nadu	Power Trading India Pvt Ltd., Chennai	Mar 2016
21.	2MW Solar PV, Single Axis Tracker in Solapur, Maharashtra.	Namrata Services Pvt Ltd., Pune	Feb 2016
22.	3X60 MW Solar PV Plants in Tamil Nadu with Single Axis Tracker	Sun Edison Energy India Pvt Ltd	Mar 2016

S.No	Solar PV Project	Client & Commissioned Details	
23.	20 MW Solar PV with 66kV Switchyard in Pavagada, Karnataka A/c. Atria	Oriano Clean Energy Pvt Ltd	Mar 2016
24.	10 MW PV, Single Axis Tracker in Welikanda, Sri Lanka	Solar One Ceylon (Pvt) Ltd, Sri Lanka	Under Implementation
25.	10 MW PV, Single Axis Tracker in Welikanda, Sri Lanka	Vydexa Lanka Power Corporation (Private) Ltd, Sri Lanka	Under Implementation

D. FEASIBILITY STUDY AND DETAILED PROJECT REPORT:

S.No	Solar PV Project	Scope	Client
1.	2 X 250 MW Solar PV - Site Due-diligence report and Pre-Bid Engineering in MP	Site Due-diligence	AES Solar
2.	50MW Solar PV Plant in Pavagada, Karnataka	DPR	Yarrow Infrastructure
3.	40 MW Solar PV Project at Hasanpur, Prakasam Dist, Andhra Pradesh	DPR	Agri Gold Projects Ltd, Vijayawada
4.	18 MW Solar PV Plant in Pakistan	Project Concept Note	Harappa Solar (Private) Limited, Pakistan
5.	15 MW Solar PV Power Plant in Pudukkottai, Tamil Nadu	DPR	Edison Energy
6.	15 MW Solar PV Power Plant in Dindigul District, Tamil Nadu	DPR	Vedhaah Power
7.	10 MW Solar PV Power Plant in Dindigul District, Tamil Nadu	DPR	Vedhaah Green Power
8.	5 MW Solar PV Power Plant in Pudukkottai, Tamil Nadu	DPR	Power Trading India
9.	8 MW Greenhouse Solar PV Rooftop Project in Karnataka	DPR	Sun Agro Power
10.	5.7 MW _p Roof Top Solar PV Rooftop for various centers in India	Feasibility Report	Wipro Ltd
11.	800 kWp Roof Top Solar PV Power Generation System	Feasibility Report	Perfetti Van Melle India
12.	2 MW Solar PV Power Plant in Pudukkottai, Tamil Nadu	DPR	Edison Energy
13.	1 MW Solar PV Power Plant	Feasibility Report	ICRISAT, Hyderabad

S.No	Solar PV Project	Scope	Client
14.	25MW Solar PV Project in Gujarat	Pre-Bid Engineering	Larsen and Toubro Ltd, Chennai
15.	3MW PV Project with Single Axis Tracker in Andhra Pradesh	Pre-Bid Engineering	Toyo Engineering India Pvt Ltd, Mumbai
16.	Site Due-diligence study for various sites in AP, Telangana and MP for Pre-Bid	Site Due-diligence Report	Sun Edison Energy India Pvt Ltd

E. SOLAR PV PROJECTS PARTIAL DESIGN ENGINEERING SERVICES:

S.No	Description	Client
1	Design of Module Cleaning System for 5MW Solar PV Project at Dhama, Gujarat	Azure Power Gujarat Pvt Ltd
2	Design of Module Cleaning System for 5MW Solar PV Project at Dhama, Surendra Nagar, Gujarat.	ESP Urja Pvt Ltd.,
3	Design Engineering for Module Cleaning System for following projects: <ul style="list-style-type: none"> • 10 MW PV Project at Dhama, Gujarat • 25 MW PV Project at Phatan, Gujarat • 10.4 MW PV Project in Thailand • 10.4 MW Solar PV Project in Thailand 	MEMC Solar Services India Private Limited, Chennai
4	Design Engineering for Module Cleaning System for 20MW Solar PV Project	Juwi India Renewable Pvt Ltd, Bengaluru
5	Structural Engineering Services for Installation of Solar PV Modules of Capacity of 550 kW Rooftop Project	Swelect Energy Systems Limited, Chennai
6	Design Review and validation Engineering services for Module Mounting Structure for 6MW Solar PV Project at Uttarkhand	Gamesa Renewable Private Limited, Chennai
7	Preparation of Site Construction Manual in line with technical standards & HSE norms.	SunEdison Energy India Pvt Limited, Chennai
8	Automation service in Pre-Bid Engineering	SunEdison Energy India Pvt Limited, Chennai
9	Development of software tools for layout optimization especially in terrain region and cable sizing tool	In-house project - Implemented for 3X50 MW NTPC Project in Mandsaur, MP

F. LIST OF MAJOR ROOF - TOP PROJECTS:

S.No	Roof-Top Solar PV Project	Scope	Client	Remarks
1.	400 kW on Textile Factory in Bangalore	Detailed Engineering	Visual Percept Solar Projects Pvt Ltd	Commissioned in March 2016
2.	184 kW Project in USA	Detailed Engineering	Sun Edison Inc.	Commissioned in 2015
3.	330 kW Project in Madhya Pradesh	Owner's Engineering	Indus Mega Food Park	Commissioned in 2016
4.	1.5 MW Project on Spinning Mills in Andhra Pradesh	Detailed Engineering	Confidential	Engineering completed
5.	700 kW PV Project A/c. Amway in Tamil Nadu	PMC	Oriano Clean Energy	Commissioned in 2016
6.	5 MW on various buildings of Wipro	Feasibility Report	Wipro Ltd	Completed
7.	800 kW on Factory in Chennai	Feasibility Report	Perfetti Van Melle	Completed
8.	8 MW Green House Roof Top PV Project in Karnataka	DPR	Sun Agro Power Pvt Ltd	Completed
9.	500 kW Project on Sugar industry in Maharashtra	Feasibility Report	Vikas SSK	Completed
10.	2 MW on Dairy Farm in Pakistan	Detailed Engineering	Ramzan Energy Ltd	Completed
11.	2 MW Roof Top Project A/c. Ashok Leyland, Ennore, TN	Detailed Engineering	Oriano Clean Energy	Implementation
12.	2 MW Roof Top Project A/c. Ashok Leyland, Hosur, TN	Detailed Engineering	Oriano Clean Energy	Implementation
13.	1 MW Roof Top Project A/c. Ashok Leyland, Bhandara, MH	Detailed Engineering	Oriano Clean Energy	Implementation
14.	1 MW Project on institutions A/c. SGI, Maharashtra	Detailed Engineering	Renom Energy	Implementation

G. SOLAR THERMAL PROJECTS

S.No	Description	Client
1	The complete Design, Engineering, Field Automation, Integration of Solar Tracking	Atria Power Corporation Limited, Harihar

S.No	Description	Client
	System and other area information like Heat Exchanger, Turbine, BOP area etc., into DCS for 3MW Solar Thermal Power Plant	
2	Study and Evaluate the power block for Solar Thermal Project at SEC centre.	Suntrof Mulk Energy Group, Dubai
3	Design / Engineering of automation for a pilot project. The services include design of control systems for control of THERMINOL oil in Parabolic Trough systems. The system was implemented and ultimately approved by IIT - Mumbai, who are the inspection agency	Suntrof Mulk, Dubai
4	Design Engineering assistance for Piping / Pipe Support in Solar Thermal Plant (Pilot Project)	Suntrof Mulk, Dubai
5	Design & Engineering Consultancy Services for ALBA NOVA 1 - 12 MW CSP Plant in Corsica, France	Habtoor Leighton Specon, Abu Dhabi
6	Pre bid Engineering services for 50 MW Solar Thermal Power plant in Rajasthan.	Larsen and Toubro Ltd, Chennai
7	Pre-bid Engineering services and expert review services for Concentrated Solar Power (CSP) power plant in Rajasthan - 10 MW.	Larsen and Toubro Ltd, Chennai
8	Pre-bid Engineering services and expert review services for 100MW CSP power plant in Rajasthan.	Larsen and Toubro Ltd, Chennai
9	Pre-bid Engineering Services and Expert review service for 125MW CSP plant in Rajasthan	Larsen and Toubro Ltd, Chennai
10	Project Management and Site Supervision Services for 125MW CSP in Rajasthan	Larsen and Toubro Ltd, Manapakkam
11	Pre-Bid Engineering services for 25 MW CSP Plant in Gujarat	Indu Projects Ltd, Hyderabad
12	Review of engineering drawings and documents and Site Project Management Services for 125MW CSP project	Areva Renewable, Chennai
13	Site Management / Supervision services for 125MW CSP project	Areva Solar, Mumbai

GROUP COMPANY

- Avant-Garde Systems and Controls (P) Limited, Chennai
- Avant-Garde Engineers & Consultants FZC, Sharjah, U.A.E

AFFILIATIONS & MEMBERSHIP

- CEAI - Consulting Engineers Association of India (CEAI is member of **FIDIC International Federation of Consulting Engineers**)
- Consultancy Development Centre (CDC)
- Registered with Indian Renewable Energy Development Agency (IREDA)
- Enlisted with Power Finance Corporation of India and Asian Development Bank
- IIT, Chennai - Industrial Associateship Scheme (IAS) Membership and Library Membership
- Anna University - Industrial Associateship Scheme (IAS) Membership and Library Membership
- BIS - Bureau of Indian Standards Library Membership
- Institute of Engineers Fellow Membership - Directors (Chartered Engineers)
- Indian Chamber of Commerce and Industry (ICCI)
- Madras Chamber of Commerce and Industry (MCCI)
- Indian Wind Power Association
- Indian Welding Society
- Institute of Fire Engineers
- Bureau of Energy Efficiency (BEE)
- Maharashtra Energy Development Agency
- South Indian Sugarcane and Sugar Technologists Association
- Sugar Technologist Association of India (STAI)
- Engineering Export Promotion Council (EEPC)
