

# **ENERGY EFFICIENCY AND SUSTAINABILITY PROFILE**



**green power | clean water**

## **Aan Energies Private Limited**

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## INTRODUCTION

Aan Energies Private Limited (AEPL), a business enterprise focusing on green energy and clean water, is actively pursues its business interests in delivering renewable energy and energy efficiency projects, and water treatment products. AEPL is currently developing, building and financing various solar power projects with a total capacity of about 100 MW. Our experience includes projects for commercial – large and small scale, municipal, educational and utility-scale customers.

AEPL is enhancing its reach and developing new bases in the following energy domains: (a) Solar, (b) Wind Energy, (c) Energy Efficiency and Sustainability, (d) Waste-to-Energy and (e) Water and Waste Water Treatment. AEPL is presently promoting businesses in India and look forward to expanding its operations worldwide.

## ENERGY EFFICIENCY AND SUSTAINABILITY

Over 90% of energy that we use today comes from non-renewable sources such as coal, oil, and natural gas. The supply of such fuel is limited and yet the demand continues to rise. If we use energy more efficiently and at the same time increase the sourcing of alternative and renewable resources, we can reduce our energy costs, besides help in:

- Saving our natural resources and preserving our environment
- Reducing carbon emissions, smog and global warming
- Preventing oil spills and acid rain.

Saving energy is not a burden, but an investment. We feel obligated to advocate the efficient use of energy resources through implementation of energy efficient and/or renewable energy technologies. We have vast experience in providing consultancy services and conducting energy audits in multifarious industries and commercial establishments. Our consultants have also been trained on advanced techniques in energy conservation and management for manufacturing & process industries and power utilities overseas.

## OUR VISION

Our VISION is to excel in providing consulting and advisory services for improving energy efficiency, optimising water consumption, increasing renewable energy usage, and thus reducing overall carbon foot printing.

## OUR MISSION

Our MISSION is to exceed our client's demands and expectations by offering our best technical resources. We will strive to achieve the following:

- Continually improve our technical expertise to make us the preferred service provider in the business of energy efficiency and sustainability
- Maintain the fair name of our company by adhering to legal and ethical business practices.

## SERVICES OFFERED

We, at AEPL, provide complete solutions for energy security and environmental management. The services provided by us are listed below in detail:

### Energy Management

- Comprehensive energy assessment for energy intensive industries and commercial establishments
- Preliminary and detailed energy audits (thermal and electrical systems)
- Power quality and harmonics study
- Facilitation for implementing energy efficiency and renewable energy projects
- Techno-economic feasibility studies and demonstration of energy efficiency and renewable energy technologies
- Energy demand forecasting, energy planning, energy policy studies and energy sectoral studies
- Advocacy on selection of energy efficient technologies at design stage for green field projects
- Unique and problem related studies on energy efficiency for multifarious industries
- Advisory services for green building design
- Training, capacity building and information dissemination for managers/ engineers

- ISO 50001–EnMS consulting.

#### **Sustainability Reporting and Carbon Advisory Services**

- Carbon foot printing and climate change services
- Sustainability reporting
- Training and capacity building

#### **Water Management**

- Water audit and water balance studies
- RO, STP and ETP performance evaluation

#### **WHY AEPL?**

**Employees:** Our employees are our strength. Our employees are highly educated and skilled to help our customers with attention, devotion and dedication.

**Honesty:** We practice a transparent business model, keeping our customers fully informed about the methodology of study, possible savings options and long term solutions for a sustainable future.

**Quality:** We use advanced meters for onsite field measurement to ensure the highest quality of measurements that will help in analysis and energy saving recommendations. Quality of service is the foundation of our practice.

#### **INSTRUMENTS**

We have portable instruments to carry out on-field measurements of various parameters. The list of instruments is given in the table below:

No	Instrument	Make	Quantity
1	Flue Gas Analyzer	Testo	1
2	Ultrasonic Flow Meter	GE Sensing	1
3	Digital Thermometer	Fluke	1
4	Digital Thermometers	Digitherm	3
5	Thermo-hunter (Testo-830-T2)	Testo	1
6	Pitot Tube	Testo	1
7	Digital Pressure Gauge	Testo	1
8	Pressure Gauge	Wika	1
9	Hot Wire Anemometer (AVM-03)	Metravi	1
10	Power Quality Analyser cum Data Logger (Fluke-434)	Fluke	1
11	Power Quality Analyser cum Data Logger (Fluke-43B)	Fluke	1
12	Power Quality Clamp-on Meter (Fluke-345)	Fluke	1
13	Thong Tester	Fluke	2
14	Electrical Multimeter	Fluke	3
15	Electrical Multimeter cum Calibrator (UNIGOR-390)	Unigor	1
16	Megohmmeter Resistance Meter (Fluke-1520)	Fluke	1
17	Digital Insulating Resistance Tester and Multimeter	Kusam-MECO	3
18	Hygrometer	Testo	1
19	Lux Meter (LX-101)	Lutron	1

#### **KEY PROFESSIONALS**

We, at AEPL, believe that the skills and passion of our people are critical in everything we do. Our multi-cultural team consists of Chemical Engineers, Mechanical Engineers, Electrical Engineers, Production Engineers and Economists. The brief information on key professionals are given below:

### **A Govindaraj**

Govindaraj is an Electrical Engineer and acquired his Master degree in Energy Conservation and Management and Sustainable Power Generation. He is an Accredited Energy Auditor by the Bureau of Energy Efficiency (BEE), and is specialized in energy audit of electrical systems. He has about nine (9) years of experience in this field. He has conducted energy audits for more than 82 industries like power plant, chemical, cement, sugar, pharmaceutical, iron & steel, textile, commercial buildings, etc. He is specialised in performance evaluation of electrical systems, power quality assessment and harmonics analysis. He has published many papers on energy efficiency and management. He has visited Singapore, Japan, Uganda and Ghana as part of business.

#### **Companies Worked**

- ◆ The Energy and Resources Institute (TERI)-Bangalore
- ◆ Sri Lakshmi Packagings-Hosur

### **V Ramachandran**

Ramachandran is a Chemical Engineer and acquired his Master of Technology in Energy Conservation and Management. He is a Certified Energy Auditor by the BEE, and is specialized in energy audits and water conservation studies. He has about fifteen (15) years of experience in Energy Management and

Design of Thermal Systems. He has conducted energy audits/water conservation studies for more than 50 industries like power plant, chemical industries, textile, cement, iron & steel, engineering industries, etc. His knowledge of pressure vessels, rotating equipment, heat exchangers and other industrial equipment has been acquired over

the years in the design, performance analyses and energy conservation activities. He has published several articles and papers on energy conservation and waste heat recovery systems. He has visited Sweden, Maldives, Bangladesh and South Africa as part of business.

#### **Companies Worked**

- ◆ Tata Consulting Engineers Limited (TCE)-Bangalore
- ◆ The Energy and Resources Institute (TERI)-New Delhi
- ◆ APITCO Limited-Hyderabad
- ◆ Chemprojects Consulting Engineers Pvt. Ltd.-New Delhi

### **M Rajkumar**

Rajkumar is a Post-Graduate Engineer in Power System. He has served at various levels in Semi-Government, Private and Public Sector organizations. He has 20 years professional experience and was involved in design and development of power projects and water systems in India. He has involved in financial appraisal, design, engineering and execution of several megawatt scale renewable energy and energy efficiency projects including solar based water treatment plants viz. iron removal, arsenic removal, fluoride removal and mini rural water supply scheme for drought affected areas in the States of Bihar, Rajasthan and Tamilnadu. He was also involved in successful implementation of India's first SPV Market Development Programme under World Bank Line of Credit.

#### **Companies Worked**

- ◆ Indian Renewable Energy Development Agency Limited-New Delhi (A Govt. of India Enterprise)
- ◆ Engineers India Limited (A Govt. of India Enterprise)
- ◆ Emmvee Solar Systems Private Limited-Bangalore
- ◆ Tata Consulting Engineers Limited-Bangalore
- ◆ Punj Lloyd Delta Renewables Private Limited-Gurgaon
- ◆ M/s Intergen Energy Limited-Gurgaon

He has involved in design and execution of several medium and large scale water treatment projects funded by bi/multi-lateral agencies such as World Bank, ADB & KfW. He has published several papers and extensively travelled in Asia and Europe. He has managed and headed up engineering and design works for projects (solar, wind, waste-to-energy, biomass and water treatment system) valued at over 20,000 crores, all within the service sectors that Aan Energies will offer.

### **R Alaguraja**

Alaguraja is a Mechanical Engineer with Post Graduation in Energy Conservation & Management. He is a Certified Energy Auditor with seven (7) years of experience in Energy Efficiency and CDM. He has completed about 40 energy audit studies till date

#### **Companies Worked**

- ◆ Conergy Energy Systems (India) Private Limited
- ◆ Kalki Communication Technologies Private Limited
- ◆ Asia Carbon Emission Management India Pvt. Ltd.

covering power plants, commercial establishments, municipal pumping stations, street lightings and MSME units. He is keen in developing energy efficiency software programs for industries.

### **K Ajmal Hussain**

Ajmal is a basically a Petrochemical Engineer with master degree in Energy Conservation & Management. He is a Certified Energy Auditor by BEE and has about sever (7) years of experience in production and energy efficiency fields.

#### **Companies Worked**

- ◆ Anand Engineering Product Private Limited
- ◆ Kalki Communication Technologies Private Limited
- ◆ Conergy Energy Systems (India) Private Limited

He has conducted about 40 energy audits for power plants, municipal pumping stations, street lighting systems, hospitals and other industrial segments. His area of interest include EnMS and development of simulation software packages for energy efficiency improvement of industrial systems.

### **A Thangavelu**

Thangavelu is a Production Engineer and has about nine (9) years of experience. He is specialized in R&D, design and automating the production process in the manufacturing and process industries. He has

#### **Companies Worked**

- ◆ ARKS Industrial Research & Design (India) Pvt. Ltd.
- ◆ Autosoft Solutions India Private Limited-Bangalore
- ◆ SIECO Engineers Private Limited-Bangalore

successfully completed the production design and automation processes for automobile, watch manufacturer, sugar and iron & steel industries. Further to his R&D and design experience, he is also passionate in the area of energy efficiency. He has involved in energy audit studies for more than 20 industries like power plant, cement, sugar,

textile and commercial buildings. He is specialised in performance evaluation of compressors, cooling towers, water pumping system, fans and blowers.

### **ENERGY AUDIT/EFFICIENCY PROJECTS CARRIED OUT BY THE TEAM MEMBERS**

The indicative list of energy audit/ energy efficiency projects carried out the team members of AEPL is given below:

- Monitoring and Verification Audits:
  - ◆ Expert consulting services for Monitoring and Verification Audit as per Bureau of Energy Efficiency (BEE) guidelines for Enzen Global Solutions Pvt. Ltd., Bengaluru to the following companies:
    - Jaypee Rewa Cement Plant, Madhya Pradesh
    - Jaypee Bela Cement Plant, Madhya Pradesh
    - OCL India Limited, Odisha
    - IB Thermal Power Station, OPGCL, Odisha
- Energy audits for major industries carried out by the members of AEPL, to name a few, are listed below:
  - ◆ Thermal Power Stations
    - Torrent Power Limited, Gujarat (2x110 MW, 1x120 MW, 1x60 MW and 1x100 MW CCPP)
    - NTPC Limited, Talcher, Orissa (2 x 500 MW once-through type units)
    - NALCO-CPP, Angul, Orissa (6x120 MW)
    - Punjab State Electricity Board, Punjab (1 x 110 MW and 5 x 210 MW)
    - Durgapur Projects Limited, West Bengal (2 x 30 MW, 3 x 77 MW and 1 x 110 MW)
    - Shree Power Limited, Rajasthan (4 x 18 MW and 1 x 6 MW)
  - ◆ Metal and Minerals
    - Binani Zinc Limited, Cochin
    - Electrosteel Castings Limited, Khardah, West Bengal
  - ◆ Chemicals and Pharmaceuticals
    - Brahmaputra Valley Fertilizer Corporation Limited (BVFCCL), Namrup-III, Assam
    - Hyderabad Industries Limited, Dharuhera
    - IOCL-Gas Bottling Plant, Chennai
    - Dr Reddy's Laboratories, Hyderabad
  - ◆ Cement
    - Gagat Cement Works, ACC, Himachal Pradesh
    - Jamul Cement Works, ACC, Chhattisgarh
    - Kymore Cement Works, ACC, MP

- Madukkarai Cement Works, ACC, Tamilnadu
- Existing and New Wadi Plant, ACC, Karnataka
- Ultratech Cement, Jharsiguda
- ◆ Glass
  - Piramal Glass Limited, Piramal
  - AGI Glass Pac Limited, Hyderabad
- ◆ Sugar
  - Sri Sarvaraya Sugars Ltd., Rajamundari
  - Rajashree Sugars Unit I & II, Theni
- ◆ Food
  - GlaxoSmithKline Consumer Healthcare Ltd., Nabha, Punjab
  - Heinz India Private Limited, Aligarh
  - Tata Tea Limited (Instant Tea Division), Munnar
- ◆ Textile
  - Abhishek Home Textile Unit-1, Barnala
  - Consolidated Fibres and Chemicals Ltd (CFCL), Haldia
  - Morarjee Textiles Limited, Butibori, Nagpur
- ◆ Engineering
  - Hero Honda Motors Limited, Dharuhera
  - Mahle Filter Systems India (MFSI), Gurgaon
  - Bharat Heavy Electricals Limited (BHEL), Tiruchirappalli
- ◆ Airport
  - Hyderabad Rajiv Gandhi International Airport (GMR), Hyderabad
  - Chatrapathi Shivaji International Airport – Domestic Terminal (GVK), Mumbai
  - Chatrapathi Shivaji International Airport – International Terminal (GVK), Mumbai
  - New Delhi Indira Gandhi International Airport (GVK), Delhi
- ◆ Building and Commercial Establishments
  - Office Buildings–Accenture, Mindtree and Cisco
  - Commercial Buildings–Bangalore Central, Reliance Retail
- ◆ Others
  - ITC Limited, Saharanpur
  - Kolkata Port Trust, Haldia and Kolkata
  - Moser Baer India Limited (MBIL), Greater Noida
  - Thomson Press, Faridabad
  - Times of India, New Delhi
- Feasibility study of a captive cogeneration plant for India Coal-to-Liquid (ICTL) project for TATA-Sasol Joint Venture.
- Consulting engineering services during execution phase for renovation and modernization (R&M) and performance guarantee assessment of 110 MW E & F units at Sabarmati Thermal Power Station.
- Bid review of boiler package (2x660 MW super critical power project) for Visa Power Limited.
- Combustion testing of boilers at three ESKOM Power Stations (2x400 MW Arnot Power Station, 2x500 MW Kriel Power Station and 2x600 MW Matla Power Stations).
- Coal optimization study at Duvha Power Station (6x600 MW) of ESKOM, South Africa. As part of the study, conducted performance test of air-gas path including coal mills, air heaters and fans.
- Energy options study for University of Central Asia (UCA) – Three campuses namely Naryn campus in Kazakhstan, Khorog campus in Tajikistan and Tekeli in Kirgizstan.
- Studied the low temperature waste heat recovery technologies demonstrated/commercialized around the world for power generation and heating/cooling applications for ALCOA Inc., USA.

## CONTACT DETAILS

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