
BGR
ENERGY
Engineering Energy...

BGR Energy – A Snapshot

- Promoted by Mr B.G. Raghupathy (BGR) as a joint venture with GEA Energietechnik GmbH, Germany in 1985
- Business predominantly in two segments, the supply of systems and equipment as well as turnkey engineering project contracting
- Accreditations
  - ISO:9001 Certification for three Manufacturing Units
  - ASME 'U' Stamp for two Manufacturing Units
  - ASME 'S' certification for one Manufacturing Unit
  - Approved by Indian Boiler Regulations (IBR)
- One Joint Venture and several technical collaborations / know-how from multinational companies to cater to Power, Oil and Gas sectors
- Technical tie-up / strategic alliance with international companies for Products in Power, Oil & Gas, Environmental and Infrastructure sectors
- Global operations – contracts executed in 42 countries
- Executed more than 130 contracts in India and abroad
- 40 – 50% of 'Balance of Plant' systems manufactured in-house
- Orders on hand – Rs.33,212 Million (as of 30.09.2007)

Business Divisions

Proven track record in design, engineering and project management capabilities across business divisions

- **Power Projects Division**
- **Captive Power Division**
- **Oil & Gas Equipment Division**
- **Air Fin Cooler Division**
- **Environmental Engineering Division**
- **Electrical Projects Division**
- **Infrastructure**

Group Companies

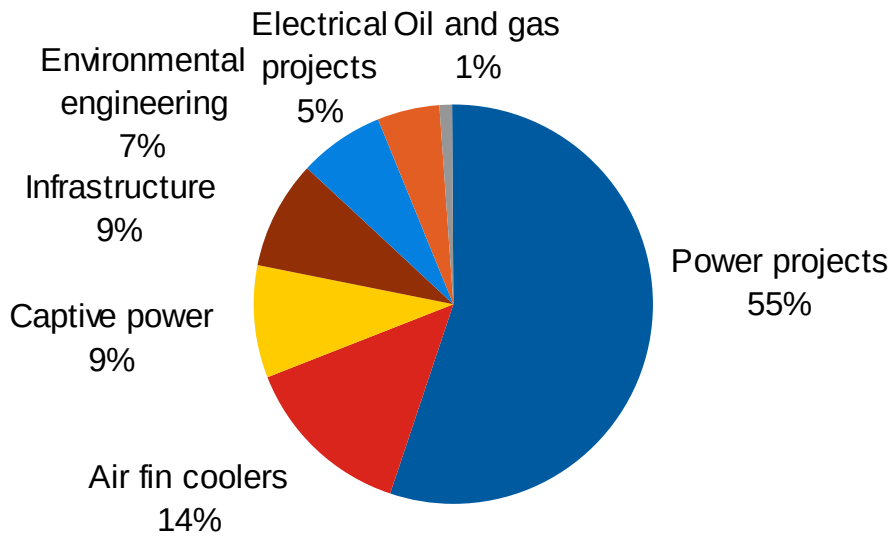
- **GEA BGR Energy System India Limited**
- **Progen Systems & Technologies Limited**

Joint Venture Company

- **GEA Cooling Tower Technologies (India) Pvt Ltd**

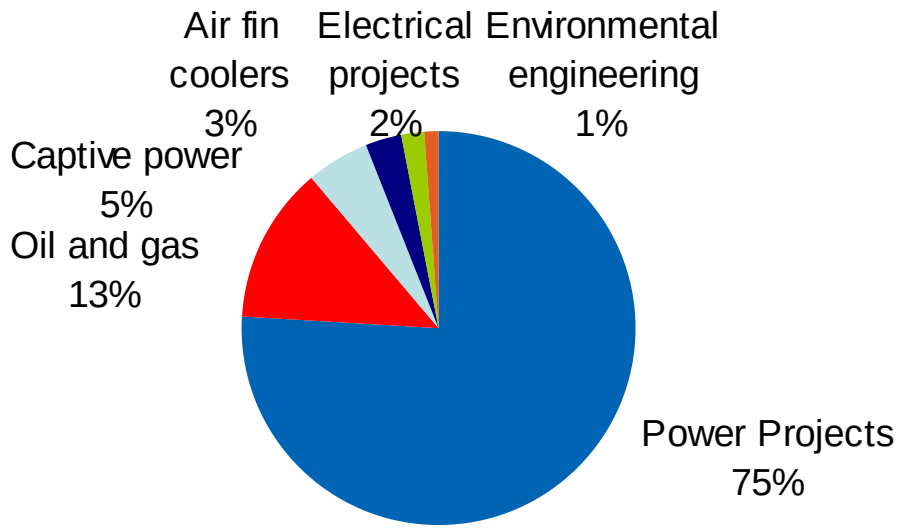
Business Divisions

Revenue break up in FY07*



Rs. 7,128 million

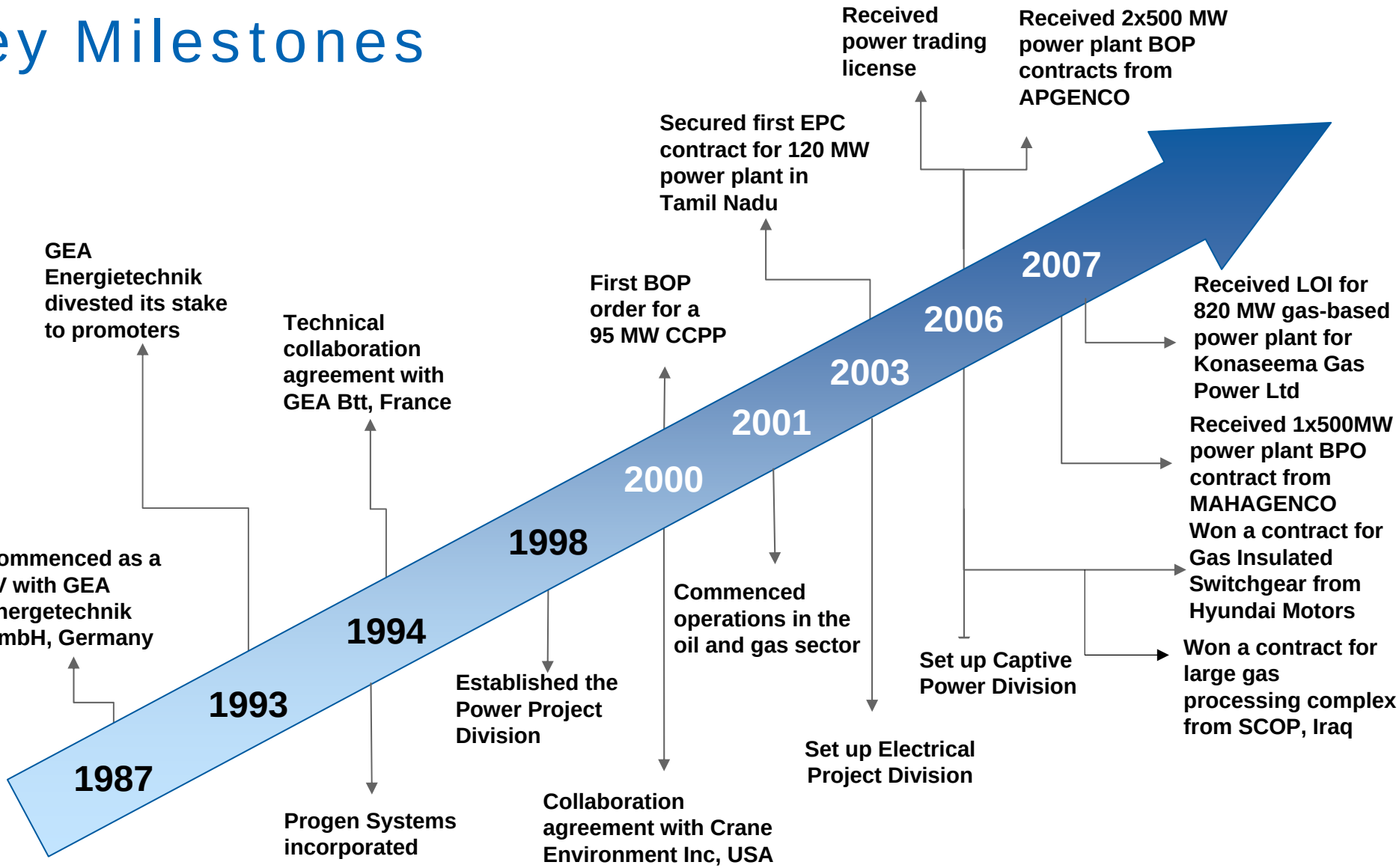
Order backlog as of 30 September, 2007



Rs. 33,212 million

Note: * FY07 is 18 months period ending March '07; FY04 and 05 end in September

Key Milestones

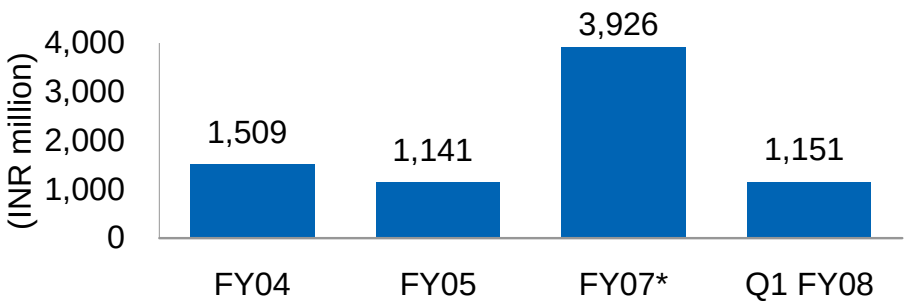


Power Project Division

- **Turnkey engineering procurement & construction (EPC) and Balance of Plant (BOP) contracting**
- **Early adopter of BOP concept in India**
- **Order backlog of Rs. 25,073 Million as of 30th September 2007**
- **Possesses in-house design and engineering capabilities, and employs them to optimize project costs leading to higher margins**
- **Received a LoI on September 24, 2007 from Konaseema Gas Power Ltd to execute BOP contract for 820 MW CCPP worth Rs.6,600 Million**
- **Competes with Reliance Energy, BHEL, Larsen and Toubro and Tata Projects**

Power Project Division

Total Income from Power Project Division



Projects Executed & Pipeline

Projects	Order Value (Rs Mn)	Scope of Contract
COMPLETED		
95 MW Combined Cycle Power Plant (CCPP) – Valuthur, Tamil Nadu	594	B O P
23 MW Coal Fired Power Plant – Chittorgarh, Rajasthan	444	B O P
120 MW CCPP – Karuppur, Tamil Nadu	2,697	E P C
UNDER EXECUTION		
500 MW Thermal Power Station – Vijayawada, Andhra Pradesh	5,788	B O P
500 MW Thermal Power Station, Kakatiya, Andhra Pradesh	6,949	B O P
500 MW Thermal Power Station, Khaperkheda, Maharashtra	9,980	B O P
330 MW CCPP – Dholpur, Rajasthan**	2,095	B O P

Note: * FY07 is 18 months period ending March '07; FY04 and 05 end in September

** Open cycle commissioned, combined cycle completed

Power Project Division

95 MW CCPP – TNEB, Ramnad, Tamil Nadu

23 MW CPP-Grasim Industries, Chittorgarh (Rajasthan)

120 MW CCPP – Aban Power, Karuppur, Tamil Nadu

330 MW CCPP – RRVUNL, Dholpur, Rajasthan

Captive Power Division

- **Established in 2006 to address the growing demand for industrial captive power plants and public utility projects in India upto 150 MW**
- **Executes both BOP and EPC contracts**
- **Contributed Rs.632 million to the consolidated turnover in FY07* and Rs.935 million for the quarter ended June, '07**
- **Order backlog of Rs.1,819 Million as on 30th September 2007**
- **Competes with Thermax, L&T, Indure, Tata Projects and Greenesol Power**

Note: * FY07 is 18 months period ending March '07; FY04 and 05 end in September

Captive Power Division

Projects under Execution

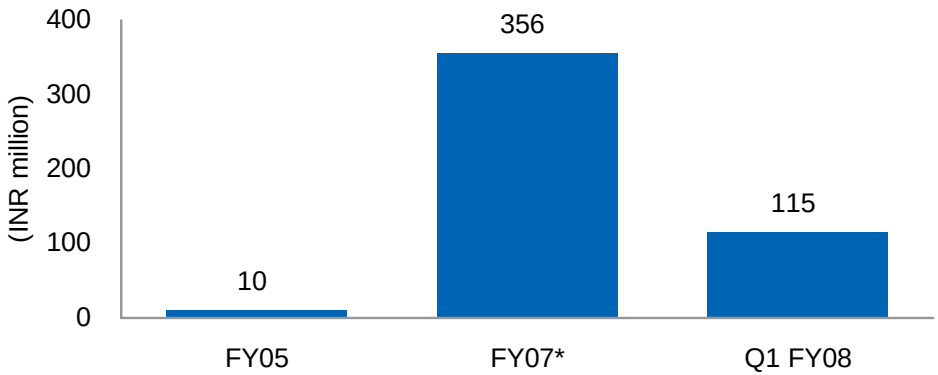
Project	Project Owner	Order Value (Rs.mm)	Scope of Contract
92.2 MW CCPP Phase II - Valuthur	Tamil Nadu Electricity Board	3,553	EPC
25 MW CCP - Mettur	Madras Aluminum Co.	765	EPC

Electrical Projects Division

- **Created in 2003 to support existing business by supplying electrical systems and equipment for power stations, refineries and petrochemical operations**
- **Turnkey solutions for:**
  - **EHV Substations**
  - **EHV Transmission Lines**
  - **Plant Electricals**
  - **Gas Insulated Switchgear Substations**
  - **Optical Fibre Ground Wire (OPGW)**
- **Electrical Balance of Plant for Thermal / Hydro & Nuclear Power Projects**
- **Power Trading – Category 'F' Licenced**
- **Order backlog of Rs.583 Million as of 30th September '07**

Electrical Projects Division

Total Income from Electrical Projects Division



Projects Executed & Pipeline

Projects	Order Value (Rs Mn)	Scope of Contract
COMPLETED		
Providing bulk power at Kalpakkam	**8**	**Supply & Erection**
Gas Insulated Switchgear installation, LTCables, Chennai	**13**	**Supply & Erection**
UNDER EXECUTION		
Teesta Low Dam III Hydro Electric Project, Siliguri, West Bengal	**303**	**Supply & Erection**
Substation LT Distribution system, Jodhpur	**217**	**Supply & Erection**
Substation & associated transmission lines, Bangalore & Kolar	**407**	**Supply & Erection**

Note: * FY07 is 18 months period ending March '07; FY05 end in September

Oil & Gas Equipment Division

- **Products and turnkey services for the Oil & Gas industry, which includes**
  - **Gas Conditioning & Metering Skid**
  - **Storage Tanks**
  - **Pipeline Pig Launching & Receiving System**
  - **Gas Processing Complex**
  - **Gas Compressor Package**
- **Has an exclusive agreement with Ariel Corporation to package and sell reciprocating gas compressors in India and Bangladesh. Orders under execution are:**
  - **Hydrogen Gas Compressors for Jubail Oil Chemicals, Saudi Arabia**
  - **Booster Compressor for TNEB, Valuthur**
  - **CNG Compressors for Maulana & Sons, Sonergan, Bangladesh**
- **Received export orders from the State Company for Oil Projects (SCOP) in Iraq for US$ 94.6 Mn**
- **Order backlog of Rs.4,268 Million as of 30th September 2007**

Oil & Gas Equipment – Few Customers

ONGC

Oil India Limited

IndianOil

JANA

Gujarat State Petronet Ltd

ALSTOM

LARSEN & TOUBRO LIMITED
Engineering Construction & Contracts Division

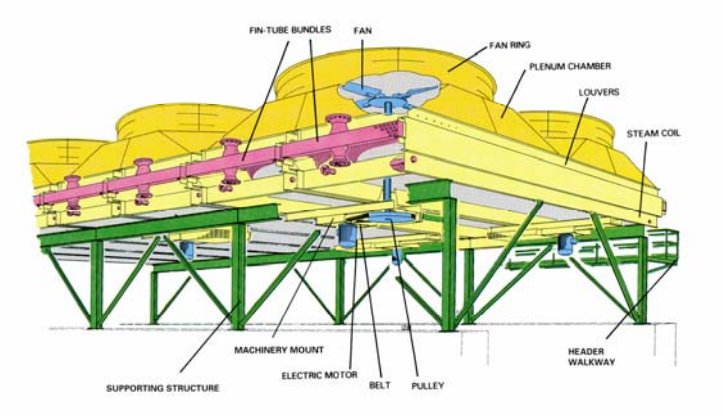
STATE COMPANY OF OIL PROJECTS, IRAQ

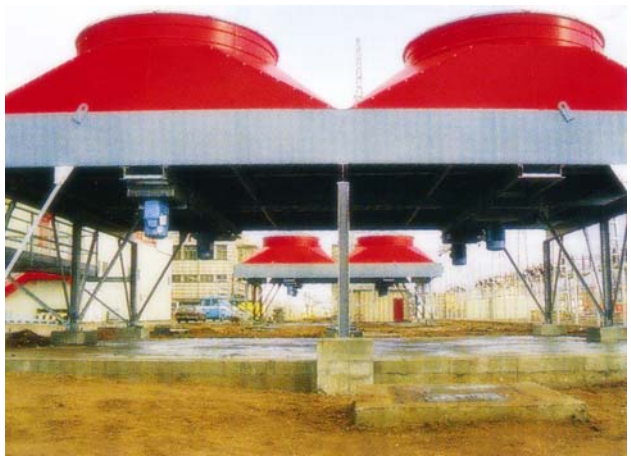
GAIL (India) Limited
Gas & Beyond

NIKO RESOURCES LTD

Reliance
Industries Limited

Air Fin Cooler Division





- **Turnkey supply of air cooled heat exchangers for oil & gas processes and power sector industries**
- **Capable of producing all three variations of finned tubes – embedded, extruded and welded finned tubes**
- **Certified by ASME with a "U" stamp**
- **Key markets are in India, the Middle East, Southeast Asia and North Africa**
- **List of clients include Samsung Engineering, Hyundai Heavy Industries, Reliance and L&T**
- **Turnover of Rs.969.6mm for the 18 months ended March' 07 and Rs.40 million for Q1 FY08**
- **Order backlog of Rs.1,135 Million as of 30th September 2007**

Air Fin Cooler Division – Few Customers

SAMIR سامير

Lurgi

Dodsal

شركة تنمية نفط عمان
Petroleum Development Oman

FOSTER WHEELER
Engineering for a Better World

Gulf Farabi
Petrochemical Company, Ltd

CTCI Group

قطر للبترول
Qatar Petroleum

PETROJET
The Petroleum Projects and Technical consultation Co.

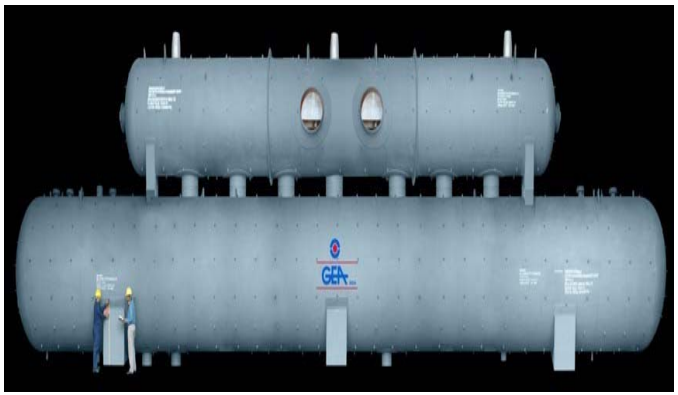
SAMSUNG ENGINEERING

HYUNDAI
HEAVY INDUSTRIES CO.,LTD.

Technip

BECHTEL

Environmental Engineering Division



- **Product range includes:**
  - **Deaerators**
  - **Effluent Treatment & Recycling Plants leading to zero discharge**
  - **Water Treatment Plants (Pre-Treatment & DM Plant)**
  - **RO based Desalination Plants**
- **Supplied on turnkey basis what the Company believes to be largest ever Deaerator in India for NPC (Tarapur) with capacity of 3,013 TPH**
- **Presently executing Deaerators for Supercritical 3 x 660 MW NTPC, SIPAT Power Plant**
- **Six large-size Deaerators for Hyundai Heavy Industries, Korea for Marfiq, Saudi Arabia project under execution**
- **Sold over 90 Deaerators in India, Asia, Middle East and Africa, ranging in capacity from 10 TPH to 3,103 TPH**
- **Four large-size Membrane-based Effluent Recycling Plants at Tiruppur on completion would be the largest in capacity in India**
- **Turnover of Rs.504.7 Mn for the 18 months period ended March '07 and Rs.115 Mn for Q1 FY08**
- **Order backlog of Rs.334 Million as of 30th September 2007**

Environmental Engineering – Few Customers

AnsaldoEnergia

SIEMENS

NPC

FOSTER WHEELER
Engineering for a Better World

ALSTOM

HYUNDAI HEAVY INDUSTRIES CO.,LTD.

इंडियनऑयल IndianOil

BECHTEL

DAEWOO

Larsen & Toubro

Reliance Industries Limited

TAMIL NADU ELECTRICITY BOARD
POWERING TAMILNADU'S PROGRESS.

Infrastructure Division

The following sectors with specialised technology requirements are identified for business development:

a) BOT Projects in the Road sector

b) Tunnelling Projects

c) Aviation and Port sector

d) Transportation systems

e) Urban Infrastructure

Design Software & International Standards

Division	Design Software	International Standards / Codes
Air Fin Cooler	➢ HTRI ➢ STAAD III ➢ AutoCAD ➢ Customised softwares	➢ ASME ➢ API ➢ ISO
Environmental Engineering	➢ PVElite ➢Auto Cad	➢ ASME ➢ API ➢ IS ➢ IBR
Power Projects / Captive Power	➢ANSYS ➢ STAAD PRO 2005 ➢ AutoCAD ➢ AutoDesk Inventor ➢ Primavera ➢ MS Projects	➢ ASME ➢ ASTM ➢ ANSI ➢ HIS ➢ IS ➢ASHRAE ➢ NFPA ➢ IEEE ➢ IEC ➢ BS
Electrical Projects	➢E-Tap	➢ IS ➢ IEC

Key Differentiators

- Established track record & brand image
  - **Early adopter of Balance of Plant concept in India**
  - **Executed over 131 contracts in 42 countries as of November 8, 2007**
- Diverse design & engineering capabilities
  - **Ability to design & manufacture customised products and projects**
  - **In-house design & engineering giving control over costs, design and scheduling**
- Diverse range of product and services
  - **Significant synergies through complementary operations**
  - **Ability to service both large and small scale projects**
  - **Project management policy & procedures allow undertaking large, multifaceted projects**

Key Differentiators

- Cost Competitiveness
  - **Control costs by optimising product features and design, low procurement costs and maximising labour efficiency**
  - **Global Sourcing**
- Technology tie-ups
  - **Successfully tied up with several international companies to obtain technology know-how**

Board of Directors

S/N	Name & Occupation	Age (Years)	Designation
1	Mr B.G. Raghupathy Industrialist	54	Chairman & Managing Director
2	Mr S. Rathinam Company Executive	56	Director (Finance)
3	Mr V.R. Mahadevan Company Executive	48	Director (Technologies, HR & Infrastructure)
4	Mr Heinrich Böhmer Business	71	Independent Director
5	Mr M. Gopalakrishna, Retd. IAS Director-In-charge, Andhra Pradesh Gas Power Corporation Limited	68	Independent Director
6	Mr S.A. Bohra Ex. Sr Exec. Director (Technical), Nuclear Power Corporation	62	Independent Director
7	Mr S.R. Tagat Chartered Accountant	51	Independent Director
8	Mrs Sasikala Raghupathy Business	51	Director

Leadership & Professional Management

- The company is led by a highly motivated team of professionals
- The Management of the company has broad experience in the industry
  - Average industry experience of the management is more than 25 years

Name	Position	Industry Experience (Years)	Experience with BGR Energy
Mr B.G. Raghupathy	Chairman & Managing Director	33	22
Mr S. Rathinam	Director (Finance)	28	15
Mr V.R. Mahadevan	Director (Technologies, HR & Infrastructure)	25	20
Mr A. Swaminathan	President & CEO, Power Projects	28	10
Major H.L. Khajuria	President & CEO, Environmental Engineering	37	10
Mr R. Ramesh Kumar	President, Corporate & Secretary	20	15
Mr G. Suresh	President & CEO, Captive Power	22	19
Mr V. Balakrishnan	President & CEO, Electrical Projects	25	4
Mr S. Ilanchezhiyan	President & CEO, Air Fin Cooler	22	1
Mr N. Murali	President & CEO, Oil & Gas Equipment	27	1
P.R. Easwar Kumar	Chief Financial Officer	15	14

GEA BGR Energy System India Ltd

Product Range

(for Thermal, Nuclear & Desalination Plants)

- On Load Condenser Tube Cleaning System
- Debris Filter
- Self Cleaning Strainers
- Sponge Balls

Reference

- T N B, Malaysia
- DEWA, Dubai
- Mitsubishi Heavy Industries
- Power Machines, Russia
- Toshiba Corporation
- Black & Veatch, USA
- Alstom, Switzerland
- A B B
- Siemens
- Ansaldo Energia
- Kiewit
- Duke Flour Daniel
- Electricity Authority of Cyprus
- N T P C
- Hyundai Heavy Industries
- Doosan Construction & Engg.
- Foster Wheeler
- Daelim

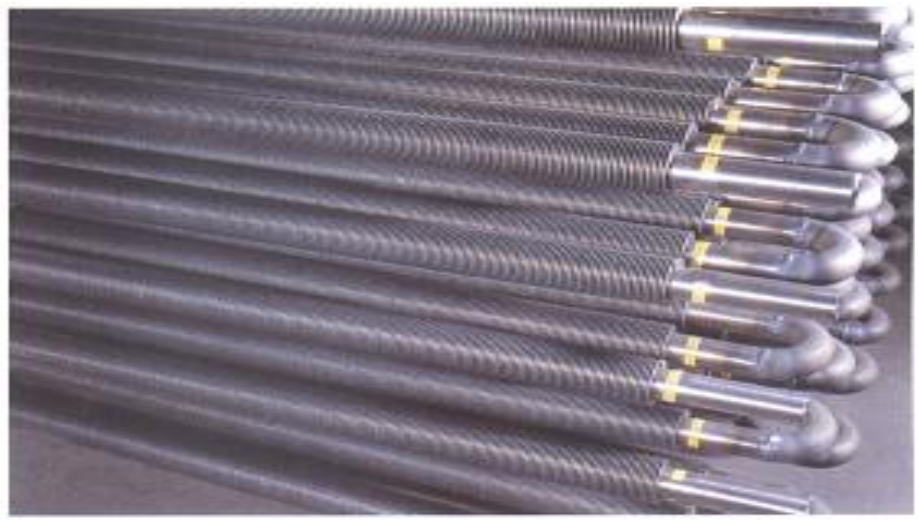
Progen Systems & Technologies Ltd

Product Range

- Heat Recovery Steam Generator (HRSG)
- High Frequency Resistance Welded Finned Tubes
- Heat Exchangers and Condensers
- Pressure Vessels & Boiler Components

Reference

- Alstom
- Bechtel
- Mitsui & Co
- Toyo Engineering
- Doosan Babcock
- Jurong Engineering
- Proplant
- UOP India
- IFFCO
- Reliance Industries
- Thermax Ltd
- BPCL



GEA Cooling Tower Technologies (India) Pvt Ltd

Product Range

Dry Cooling System

- Air Cooled Condenser

Wet Cooling System

- Induced Draught Cooling Towers
- Natural Draught Cooling Towers
- Hybrid Cooling Towers

Reference

- **Siemens Limited**
- **Tata Projects Limited**
- **Gujarat Ambuja Cements Limited**
- **Chettinad Cements Limited**
- **Binani Cements**
- **Sangam Spinners**
- **Hitech Carbon**

Power
Oil & Gas
Enviro Engineering
Infrastructure

BGR ENERGY SERVES ALL THESE PILLARS OF NATION DEVELOPMENT