

**ACCREDITED
ENERGY SERVICE COMPANIES
(ESCOs)**



**BUREAU OF ENERGY EFFICIENCY
MINISTRY OF POWER
GOVERNMENT OF INDIA**

NOVEMBER, 2008

FOREWORD

Electricity consumption in the commercial sector accounts for about 8% of the total electricity consumption in the country, and it is today, the fastest-growing electricity end-use sector, increasing at more than 11% per year. This rapid growth is largely driven by the introduction of energy intensive technologies in commercial buildings, primarily air conditioning, and a lesser extent, more-intensive indoor and outdoor lighting. The addition of these energy-intensive technologies in existing buildings undoubtedly contributes to greater productivity of the people who work in those buildings – but, as studies consistently show, these energy-intensive applications are not integrated optimally in buildings, and are, more often than not, operated inefficiently as well. These sub-optimized and inefficiently-operated buildings are a financial drain for their users, and an economic and social loss for our country which is afflicted by serious energy shortages.

It has been seen, time and again, that energy conservation in such buildings can be achieved through well-known interventions, which are cost effective as well. However, the implementation of these interventions is hampered by institutional, procedural and process barriers, particularly the inability of building managers to assess and guarantee the energy savings due to these interventions. In order to address this institutional barrier, the Bureau of Energy Efficiency has taken up the task of institutionalizing energy efficiency services, and of promoting energy efficiency delivery mechanisms, such as the development of a market for Energy Service Companies (ESCOs), which address the risks perceived by building owners.

ESCOs provide a business model through which the energy-savings potential in existing buildings can be captured, and the risks faced by building owners can be addressed as well. The performance-contract based payments for energy savings achieved through the interventions carried out by the ESCO ensures that savings are achieved, and that the payments by the building owners to the ESCO are related to the achievement of these savings. We piloted the ESCO business model to upgrade the energy efficiency of eight central government buildings in Delhi, including the Rashtrapati Bhawan, with very encouraging results. In the case of the Rashtrapati Bhawan, the investment made by the ESCO in energy-efficiency upgrades has been recovered in less than a year through the savings in the electricity bills.

However, the ESCO business model is relatively new in India, and there are very few ESCOs in the country. To promote large-scale implementation of energy conservation and energy efficiency measures in existing facilities through the ESCO route, BEE has now empanelled over thirty ESCOs through an accreditation process carried out by CRISIL and ICRA. This accreditation exercise has helped provide the technical and financial due diligence necessary to create a sense of credibility amongst the prospective building owners who are likely to secure the services of an ESCO, as well amongst the financial institutions who are likely to provide the debt and working capital to the ESCOs.

I look forward to the creation of a large market for energy efficiency services by these newly-accredited ESCOs

ACKNOWLEDGEMENT

The scope for energy efficiency improvements in buildings is immense. However, a lack of awareness amongst building owners and managers about the specific interventions that could lead to greater energy efficiency, and the non-availability of an appropriate delivery mechanism to capture future energy savings as a result of these interventions, discourages the large-scale enhancement of energy efficiency in buildings.

There is a clear and urgent need for promotion and wide spread adoption of energy efficient practices which would yield savings in electricity end use such as lighting, cooling, ventilation etc. The Bureau of Energy Efficiency launched its first building energy-efficiency programme for existing buildings in 2002, when selected government buildings were taken up for implementation of energy efficiency measures through the Performance Contracting mode. Realizing the potential of improvement on energy efficiency in commercial buildings and existing facilities, the Government of India approved a scheme to provide assistance to central and state government agencies and undertakings for the preparation of Investment Grade Energy Audits (IGEA). The IGEAs provide the detailed information necessary to building owners to decide to enter into performance-contract based energy-efficiency enhancement, and create a demand for these services.

The Bureau of Energy Efficiency has also taken necessary steps to encourage the supply of performance-contract based energy-efficiency enhancement services through Energy Service Companies (ESCOs). An exercise for expanding the number of existing ESCOs through an open invitation and evaluation process was taken up by BEE, whereby 37 ESCOs were found eligible for short listing. An accreditation exercise of these ESCOs, in terms of success in implementation of energy efficiency projects, ability of technical man-power, and financial strength to invest in such projects, was carried out by CRISIL and ICRA, with technical and financial support of BEE. The results of this accreditation and grading exercise have been compiled in this report. These accredited ESCOs would remain empanelled with BEE for a 2-year period, at the end of which a fresh accreditation from CRISIL or ICRA would be again required.

It is heartening to see the response to the accreditation and grading exercise, and I congratulate all the ESCOs who are now empanelled with BEE. I hope that this initiative would encourage more companies to develop their skills as future ESCOs and carry forward the drive for energy efficiency through the performance contracting route. I would like to acknowledge the efforts and the due diligence carried out by CRISIL & ICRA under the guidance of the team at BEE for bringing out this manual.

I would also like to thank the Ministry of Power for their support and guidance in this effort. Shri Devender Singh, Joint Secretary, chaired the committee which oversaw the empanelment and grading process, and I thank him for his guidance and support. Shri Anil Razdan, Secretary, has been the guiding force behind many of BEE's efforts, including the efforts to create a market for ESCO services, and, in particular, that of accrediting and empanelling ESCOs - our grateful thanks to him for his constant support, guidance and advocacy of energy efficiency.

Index

1. Background	5
2. Definition of the grading	Error! Bookmark not defined.
3. The Grading Scale.....	5
4. The Gradings.....	7
5. Criteria for assessment.....	6
6. Observations And Recommendations	10
Observations	Error! Bookmark not defined.
Recommendations.....	Error! Bookmark not defined.

Background

Bureau of Energy Efficiency is promoting energy efficiency measures in the country under the Energy Conservation Act, 2001. There is vast scope for energy efficiency improvements in buildings. Energy efficiency measures bring about energy savings due to reduced energy consumptions. Energy savings are determined by comparing energy baseline with energy consumed after implementation of EE measures. Energy Audit Studies have revealed a savings potential to the extent of 40% in end use such as lighting, cooling, ventilation, refrigeration etc. Energy cost savings resulting from EE measures directly benefit building owners and occupants over the life cycle of the building.

The potential is largely untapped, partly due to lack of effective delivery mechanisms for energy efficiency. Performance Contracting through Energy Service Companies is an innovative delivery mechanism for overcoming the barriers faced by energy users. Energy Efficiency initiatives are executed by companies referred to as Energy Service Companies, or ESCOs. These companies specialize in energy audit and implement energy efficiency practices in a particular organization. The overall energy efficiency investment market size under ESCO system of performance contract in India has been estimated by the ADB Study project team at Rs 140 bn (Rs. 14000 crores) and has the potential to save about 54 billion units of electricity annually.

There is a need to increase the number of ESCOs with a view to tap the potential of bringing about energy efficiency improvement in the existing buildings/ facilities. BEE took up an exercise of shortlisting of ESCOs which in turn would help in taking up energy efficiency improvement projects in their existing buildings/ facilities. The empanelment exercise would help in providing the technical due diligence and reduce transaction cost of the government sector as they will be required to only call for price bids from the empanelled ESCOs.

In order to create a sense of credibility amongst the prospective agencies that are likely to secure the services of an ESCO as well as the financial institutions, BEE has undertaken a process of rating these applicants in terms of success in implementation of energy efficiency projects based on performance contracting, availability of technical manpower, financial strength, etc. The rating exercise was done through SEBI accredited agencies of CRISIL and ICRA. The results of the exercise are being made available in public domain and to the various State Governments/SDAs, so as to facilitate them in implementing Energy Efficiency programmes in their respective states.

CRISIL and ICRA developed an accreditation methodology which involved an assessment of Business Risk (Track record and Market position), Organizational setup and Financial capability of the organization and accrediting the ESCOs on a 5 point grading scale. The Assessments of the ESCOs on each of the parameters are a holistic one, designed to evaluate the organizational capability for handling the ESCO assignment. Through the evaluation exercise CRISIL and ICRA have also provided their recommendations that would aid in overcoming barriers to Performance Contracting.

Definition of the grading

CRISIL and ICRA define ESCO grading as “An ESCO grade reflects CRISIL/ICRA’s opinion on the ability of the graded energy service company to undertake energy efficiency projects.”

Methodology

CRISIL and ICRA graded a set of ESCOs that have been empanelled with BEE. The grading is expected to aid ESCOs in being able to successfully bid for energy services projects and to arrange financing for the execution of such projects.

In the enclosed report, CRISIL and ICRA present the criteria for grading and a summary of the gradings assigned to the ESCOs and their comparable scores on the parameters for assessment. CRISIL and ICRA also enclose their observations and recommendations on how BEE can aid in building a system and culture that promotes energy efficiency in India.

The Grading Scale

The grading scale is defined below:

ICRA/CRISIL-BEE Grading	Definition
GRADE 1	Very High
GRADE 2	High
GRADE 3	Good
GRADE 4	Below Average
GRADE 5	Poor

Criteria for assessment

The parameters for assessment include:

- Years in the ESCO/energy management business.
- Number and nature of energy audits carried out till date.
- Client Profile
- Number of different industries served.
- Order book strength as measured by ratio of current order book/previous years turnover.
- Number of energy management projects completed.
- Certification and quality systems.
- Technology tie-ups.
- Patents held by the company.
- R&D facilities.
- Constitution, ownership structure and parentage.
- Management evaluation and quality of organizational structure, internal control and systems.
- Employee strength in terms of numbers, qualification and experience.
- Number of certified energy auditors.
- Maximum number of projects handled at a time.
- Annual turnover from the ESCO/energy management business.
- Profit margins of the ESCO business.
- Overall financial strength as reflected by the capital structure and debt servicing indicators like net cash accruals/total debt
- Receivables management.
- Financial flexibility arising from access to cash-flows/profits from other business.

A 100 point scale has been devised based on the above parameters with a 20% weight-age given to Business Risks, 40% weight-age to Organizational Risks and 40% to Financial Risks. For carrying out the evaluation of the ESCOs on these parameters, CRISIL and ICRA have obtained data after carrying out meetings with key officials in the technical, marketing and financial functions of these companies. Further, feedback has also been taken from customers as well as bankers.

The Grading

Based on the framework of accreditation, scoring criteria and methodology, a comparative of the graded ESCOs is given below:-

Comparison of Grade 1 ESCOs	Maximum Score	Blue Star	DSCL	Honeywell	JCPL	SBTL	Trane
Graded by		CRISIL	CRISIL	CRISIL	ICRA	ICRA	ICRA
Track record and market position	20	18	17	19	18	18	18
Organisational risk	40	36	36	39	40	34	34
Financial risk	40	33	36	32	32	36	33
Total	100	87	89	90	90	88	85
Grade		1	1	1	1	1	1

Comparison of Grade 2 ESCOs	Maximum Score	Asian Electronics	Datagen	Lloyds	MITCON	Thermax Ltd.
Graded by		CRISIL	CRISIL	ICRA	ICRA	CRISIL
Track record and market position	20	17	18	17	13	14
Organisational risk	40	27	31	34	30	34
Financial risk	40	32	28	32	31	28
Total	100	76	77	83	74	76
Grade		2	2	2	2	2

Comparison of Grade 3 ESCOs	Maximum Score	Baron	Elpro	Energetic Consulting	Energy Mgt Services	Epic Energy	Five-M
Graded by		CRISIL	CRISIL	CRISIL	CRISIL	CRISIL	CRISIL
Track record and market position	20	17	16	17	14	12	18
Organisational risk	40	24	30	20	23	23	20
Financial risk	40	24	24	21	19	26	18
Total	100	65	70	58	56	61	56
Grade		3	3	3	3	3	3

Comparison of Grade 3 ESCOs	Maximum Score	Insta-power	PRDC	Pranat	Saket	Salzer	SEE Tech
Graded by		CRISIL	ICRA	ICRA	ICRA	ICRA	ICRA
Track record and market position	20	12	12	17	14	15	12
Organisational risk	40	25	24	20	18	24	24
Financial risk	40	19	19	21	23	27	29
Total	100	58	55	58	55	66	65
Grade		3	3	3	3	3	3

Comparison of Grade 3 and Grade 4 ESCOs	Maximum Score	SGS	TESPL	Ashta-Dal	Data-matrix	Eaga Energy	3EC
Graded by		ICRA	ICRA	CRISIL	CRISIL	CRISIL	CRISIL
Track record and market position	20	12	14	14	10	9	13
Organisational risk	40	26	22	16	15	20	18
Financial risk	40	28	25	13	15	13	24
Total	100	66	61	43	41	42	55
Grade		3	3	4	4	4	4

Comparison of Grade 4 and Grade 5 ESCOs	Maximum Score	Intesco Asia	Optimumair	PMHBL	Rayon	Real Energy	Rasan
Graded by		CRISIL	ICRA	ICRA	ICRA	ICRA	ICRA
Track record and market position	20	14	8	4	13	10	8
Organisational risk	40	17	16	24	12	16	8
Financial risk	40	15	17	24	21	17	9
Total	100	46	41	52	46	43	25
Grade		4	4	4	4	4	5

The grading distribution of the accredited ESCOs is as follows:-

ESCO Grade	Number of ESCOs receiving the Grade
Grade 1	6
Grade 2	5
Grade 3	14
Grade 4	9
Grade 5	1

Observations

Successful project implementations in the private sector

Contrary to the general perception, ESCOs in India have executed a large number of meaningful projects in energy efficiency over the past three years; some of these energy efficiency projects have resulted in energy savings of as high as 30% over the original consumption level. Most of these projects have been undertaken by the private sector; the private sector's need to improve cost efficiencies in a competitive environment appears to fuel the need for such projects. Energy efficiency projects have also been undertaken by some urban local bodies.

Better awareness creation could spur larger energy efficiency projects

Greater awareness among energy users on how to identify a need for an energy efficiency project and how to undertake such a project would enable greater penetration of the concept in India. Energy users would be better placed if there were some guidelines available on the need and requirement for undertaking such projects.

Weak financial strength constrains growth of ESCOs

ESCOs need financial strength in order to execute large projects: consequently, the growth of ESCOs with weak financial strength becomes limited. Both the revenue models of ESCOs – shared savings basis or performance guarantee basis – require the ESCO to either provide capital initially, or a bank guarantee (which would also require significant collateral). Hence, for an ESCO to execute its first project, a large seed capital is an essential requirement.

CRISIL Graded ESCOs

ENERGY ECONOMY & ENVIRONMENTAL CONSULTANTS

CRISIL has assigned a **CRISIL-BEE Grade 4 to Energy Economy & Environmental Consultants (3EC)**, which indicates ‘**Below Average**’ ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	<p>Strengths</p> <ul style="list-style-type: none"> • Established track record, coupled with experienced management team
	<p>Risk Factors</p> <ul style="list-style-type: none"> • Large presence of government-owned entities in the energy service segment, restricting the firm’s business. • Significant change in senior management; their ability to successfully manage the business is yet to be seen • Concern over business certainty – the firm’s business in the current financial year shows a sluggish trend, and the firm has few confirmed orders • Weak receivable management

Fact Sheet	Year of establishment	1994
	Registered office	624, 6 th ‘A’ Main, 17 th Cross, Indiranagar II Stage, Bangalore – 560 038, Karnataka Tel.: +91 11 23316801, 23717686
	Chairman	Mrs. Muktha Rao
	Second tier management	Qualified and experienced
	<p>It provides consultancy services with special emphasis on energy conservation, power generation, transmission and distribution, environment and urban infrastructure sectors. The firm undertakes energy audits, energy related loss reduction study, environmental projects, and clean development mechanism (CDM) related project consultation. The major portion of the revenue comes from loss reduction study under the Accelerated Power Development and Reform Programme (APDRP).</p>	

ESCO Related Business	Six years in ESCO rated activities
	Ms. Muktha Rao leads the ESCO business. The firm has above average quality of staff but with limited track record. At present, apart from the family members of Mr. Rao, the company has three technically qualified and experienced general managers.
	The key focus area of the firm is energy audits and loss reduction studies. The level of complexity is moderate. Various processes include Lighting, HVAC, DG sets, motors, transformers, heat exchangers, fans, and blowers.
	The firm has presence in states like Andhra Pradesh, Tamil Nadu, Kerala, Karnataka, and Rajasthan.

Financial Performance	Revenues from energy services	Rs.402 lakh in 2007-08 (Provisional)
	Net profit from energy services	Rs.181 lakh in 2007-08 (Provisional)
	Relationship with bankers	Good
	Current order book	Rs.8.25 crore
	Receivables management	Weak – 146 days (2006-07)

ASHTA-DAL SERVICES PRIVATE LIMITED

CRISIL has assigned a **CRISIL-BEE Grade 4** to **Ashta-Dal Services Private Limited**, which indicates 'Below Average' ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	Strengths
	<ul style="list-style-type: none"> • Adequate client base – the company has approximately 30 clients who are mainly in the sugar sector.
	Risk Factors
	<ul style="list-style-type: none"> • Limited scalability of the business due to small size of operations and weak systems and controls • Geographic concentration – the operations of the company are limited to the National Capital Region • Limited project execution capability

Fact Sheet	Year of establishment	1996
	Registered office	320, Janaki Apartment, Plot No. 7, Sector – 22, Dwarka, New Delhi – 110 075 Telefax: +91 11 28051185 Mobile: +91 9868527465/9811942412
	Chairman	Mr. Kamlesh Kumar Jha
	Second tier management	Absent
	Ashta Dal Services Private Limited (ADSPL) mainly provides services like energy audits, consultancy, and annual maintenance activities relating to energy efficiency and conservation.	

ESCO Related Business	Three years in ESCO rated activities
	Mr. Kamlesh Kumar Jha is the only certified energy auditor in the company and is also responsible for the overall management of the business.
	The company is mainly provides services like energy audits, consultancy, and annual maintenance activities relating to energy efficiency and conservation.
	The company largely caters to residential complexes and sugar companies.
	The company mainly operates in the National Capital Region.

Financial Performance	Revenues from energy services	Rs.14.52 lakh in 2007-08
	Net profit	Rs.0.48 lakh in 2007-08
	Relationship with bankers	The company only has a current account with the bank
	Projected turnover	The company has targeted to achieve a turnover of Rs.18.00 lakh for the year ended March 31, 2009. The pending order book is about Rs.2 lakh.
	Receivables management	Average – 106 days

ASIAN ELECTRONICS LIMITED

CRISIL has assigned a **CRISIL-BEE Grade 2** to **Asian Electronics Limited**, which indicates **‘High’** ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	<p>Strengths</p> <ul style="list-style-type: none"> • Demonstrated track record of managing lighting projects in various municipal corporations. • Access to an existing customer base emanating from product sales • Strong organisational structure and competent team • Strong financial profile
	<p>Risk Factors</p> <ul style="list-style-type: none"> • Presence in the energy related business largely limited to the lighting segment • Customer base is largely concentrated within municipal corporations • High level of competition and volatility in input cost may lead to pressure on margins

Fact Sheet	Year of establishment	1964
	Registered office	D-11, Road No.28, Wagle Industrial Estate, Thane – 400 604, Maharashtra Tel.: +91 22 22835504
	Chairman	Mr. Suresh H Shah
	Second tier management	Qualified and experienced
	<p>Asian Electronics Limited (AEL) is involved in design, manufacturing and marketing of energy efficient products and specialising in lighting solutions. A dominant share of the company’s revenues relate to installation and maintenance of energy saving products to various municipal corporations.</p>	

ESCO Related Business	Four years in ESCO rated activities
	Mr. Panjak Sharma leads the ESCO business and is supported by a technically qualified and experienced second tier management.
	The company lacks process diversity and has presence mainly in lighting systems and related services.
	Customers are municipalities followed by hospitals and buildings for the ESCO related projects. In this segment, the company undertakes lighting projects (largely street lighting), on an outright purchase and installment plan with guarantee of 2 to 4 years. It has wide geographic spread.

Financial Performance	Revenues from energy services	Not available (Overall Rs.374.54 crore in 2006-07)
	Net profit from energy services	Not available (Overall Rs.66.63 crore in 2006-07)
	Relationship with bankers	Information not provided
	Current order book	16 projects are in progress of which installation in six have been completed.
	Receivables management	Adequate – 314 days (2006-07)

BARON POWER LIMITED

CRISIL has assigned a **CRISIL-BEE Grade 3** to **Baron Power Limited (Baron Power)**, which indicates ‘**Good**’ ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	Strengths <ul style="list-style-type: none"> • Demonstrated track record of managing projects in power circuitry and electrical analysis • Strong organisational structure with competent management team • Wide geographic reach
	Risk Factors <ul style="list-style-type: none"> • Limited range of products and services

Fact Sheet	Year of establishment	1995
	Registered office	1, Second Cross Street, Seethama Colony Extension, Teynampet, Chennai – 530 018, Tamil Nadu Tel: +91 44 24356383 Fax: +91 44 24356385
	Chairman	Mr. S Arunagiri
	Second tier management	Experienced and qualified
	<p>Baron Power is an energy service company (ESCO) which provides its customers with energy efficient solutions mainly through electrical and harmonic analysis. The company mainly provides its customers with electrical audits; these audits are mainly focused on power factor analysis, power quality analysis, and harmonic analysis.</p>	

ESCO Related Business	Thirteen years in ESCO rated activities
	The company has no certified energy auditors, but has one certified energy manager.
	The company's employees are experienced and qualified. All the engineers located at the different branches are well trained to undertake electrical audits.
	The company provides services across diverse sectors like pharmaceuticals, cement, power generation, rice mills, and spinning mills.
	The company has six branches across the country and has a pan-India presence through its strong dealer network.

Financial Performance	Revenues from energy services	Rs.9.41 crore in 2007-08 (overall for the company: Rs.15.68 crore for 2006-07)
	Net profit	Data not provided (overall for the company: Rs.0.24 crore for 2006-07)
	Relationship with bankers	Good
	Current order book	The company has an order book worth Rs.65.00 lakh which is expected to be executed within the next two months.
	Receivables management	Good – 31 days

BLUE STAR LIMITED

CRISIL has assigned a **CRISIL-BEE Grade 1** to **Blue Star Limited**, which indicates ‘**Very High**’ ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	<p>Strengths</p> <ul style="list-style-type: none"> • Demonstrated track record of managing HVAC projects • Access to an existing customer base emanating from Blue Star’s product sales • Strong organizational structure and competent team • Strong financial flexibility
	<p>Risk Factors</p> <ul style="list-style-type: none"> • Presence in the energy related business limited to the HVAC segment

Fact Sheet	Year of establishment	1943
	Registered office	Kasturi Building, J. Tata Road, Churchgate, Mumbai – 400 020, Maharashtra Tel.: +91 22 66654000 Fax: +91 22 66654150
	Chief Executive	Mr. Ashok M. Advani
	Second tier management	Qualified and experienced
	Blue Star Limited is India’s largest central air-conditioning and commercial refrigeration company. The company is listed on the Bombay Stock Exchange. The company has three streams of business: air-conditioning, commercial refrigeration, and professional electronics and applied industrial systems.	

ESCO Related Business	Four years in ESCO rated activities
	In the energy services unit, Blue Star has over 390 engineers and 30 accredited auditors, making it one of the largest ESCO's in India.
	The company is mainly in the heating, ventilating, and air conditioning (HVAC) systems segment.
	The company largely caters to the private sector which includes hospitals, malls, theatres, hotels, offices, engineering, process, pharmaceutical and textile industries.
	The company has a pan India presence and holds a strong market position.

Financial Performance	Revenues from energy services	Rs.1,238.00 lakh in 2007-08
	Net profit	Information not provided
	Relationship with bankers	Strong; The energy services business has access to corporate banking facilities of the company
	Projected turnover	The company has targeted to achieve a turnover of Rs.18.50 crore for the year ended March 31, 2009.
	Receivables management	Good – 83 days

DATAGEN POWER SYSTEMS

CRISIL has assigned a **CRISIL-BEE Grade 2** to **Datagen Power Systems**, which indicates **'High'** ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	<p>Strengths</p> <ul style="list-style-type: none"> • The company enjoys a higher level of business certainty by providing an integrated business offering in conjunction with its parent, Secure Meters Limited (SML) • Strong organisational structure and competent team • Strong financial flexibility
	<p>Risk Factors</p> <ul style="list-style-type: none"> • Limited diversity across customers and sectors • Presence in the energy-related business limited to energy audit and electrical process-oriented studies

Fact Sheet	<p>Year of establishment</p>	1999; It is a division of Secure Meters Ltd. which is a widely-held public limited company
	<p>Registered office</p>	306 Tower A, Millennium Plaza, Sector 27, Gurgaon - 122 002, Haryana Tel: 91-124-2571156-59
	<p>Chairman</p>	Mr. H. C. Gole
	<p>Second tier management</p>	Qualified and experienced
	<p>Datagen Power Systems provides range of services to power utilities which includes intellectual and field services covering various aspects of revenue management like consumer meter reading and bill management services, energy audits of transmission and distribution systems with loss management and reduction measures, and other associated services covering installation of meters, testing and audit of meter installations, and meter data extraction and analysis to generate useful management information.</p>	

ESCO Related Business	Nine years in ESCO rated activities
	The company has a technically qualified and experienced management team, and a well-defined organisational structure.
	The company mainly caters to state electricity boards (energy distribution companies/bodies) of Bihar, West Bengal, and Madhya Pradesh, and to Ajmer Vidyut Vitran Nigam Limited.
	The company has a wide geographical reach and caters to various states like Rajasthan, Karnataka, Haryana, Maharashtra, Uttar Pradesh, West Bengal, Madhya Pradesh, Bihar, Jharkhand, and Assam.

Financial Performance	Revenues from energy services	Rs.186 lakh in 2005-06 (overall Rs.17.76 crore in 2007-08)
	Net profit from energy services	Rs.49 lakh in 2005-06 (overall a loss of Rs.3.54 crore in 2007-08)
	Relationship with bankers	Good
	Current order book	Rs.12.80 crore
	Receivables management	Moderate – 87 days for the entire business (2006-07)

Datamatrix Infotech Private Limited

CRISIL has assigned a **CRISIL-BEE Grade 4** to **Datamatrix Infotech Private Limited**, which indicates '**Below Average**' ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	<ul style="list-style-type: none"> • Limited presence in the energy services segment and low business scalability - the company's business model is limited to deployment of a software tool that optimises water utilisation in pumping stations. • Weak Financial risk profile • Weak quality of internal controls and systems
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Fact Sheet	Year of establishment	2000
	Registered office	119/26 PCNT, Nigdi, Pune – 411044 Maharashtra
	Chief Executive	Mr. Ashok M. Advani
	Second tier management	Qualified and experienced
	Datamatrix was established in 2000 by Mr. Rafael Thomas; however, its first installation was in 2004. The company spent three years designing and creating DPO2, an integrated software solution for water pumping stations that monitors the performance of various parameters and recommends measures for optimisation of the process. The company is currently in the process of launching a second software tool called D-MAT.	

ESCO Related Business	<ul style="list-style-type: none"> • Four years in ESCO rated activities • The organization is very small comprising five people. The company is managed by Mr. Rafael Thomas, who is an engineer by qualification. • Datamatrix's energy savings projects are largely related to optimally using water and electricity. Their technology tools focus strongly on pumping as an activity; hence, these products find application in water pumping stations, power plants and sewerage pumping stations. • Datamatrix executes projects as a partner in DSS Associates, a joint venture between Datamatrix (which provides the software), Shonan and Serbotech. The other two partners provide the necessary capital and manpower and manage the actual execution of the projects. • The company has a limited presence in India.
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Financial Performance	Revenues from energy services	Rs.12.00 lakh in 2006-07 Revenues comprise of license fees and consultancy income.
	Net profit	Nil
	Relationship with bankers	Details of banking transactions and feedback from bankers have not been provided.
	Projected turnover	Information not provided

DSCL ENERGY SERVICES COMPANY LIMITED

CRISIL has assigned a **CRISIL-BEE Grade 1** to **DSCL Energy Services Company Limited**, which indicates ‘**Very High**’ ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	<p>Strengths</p> <ul style="list-style-type: none"> • Demonstrated track record of implementation of complex process oriented projects across various sectors • Strong organisational structure, coupled with competent senior management • Healthy financial risk profile, and good order book position • Above average quality of controls and systems
	<p>Risk Factors</p> <ul style="list-style-type: none"> • Marginal presence in the lighting segment, the fastest growing sector in the energy servicing business, impacts the company’s growth prospects. • High attrition rate impacting operations. • Weak receivable management

Fact Sheet	Year of establishment	1999
	Registered office	2nd floor, Kanchenjunga Building, 18, Barakhamba Road, New Delhi -01 Tel.: +91 11 23316801, 23717686
	Chief Executive	Mr. G. C Datta Roy
	Second tier management	Qualified and experienced
	DSCLES is engaged in providing consultancy services in the area of energy efficiency including energy audits and implementation of energy efficiency projects under ESCO system of performance contracting in India and abroad.	

ESCO Related Business	Nine years in ESCO rated activities
	Mr. Roy is competent person and leads the ESCO business. He is supported by a qualified and experienced second line of management including 7 energy auditor and 3 energy managers.
	The company is into various industrial process oriented energy service activities such as pumping systems, compressed air, and steam generation.
	The company largely caters to companies in the private sector with large companies and SMEs contributing equally to business.
	The company is one of the few ESCOs which has a wide geographic reach.

Financial Performance	Revenues from energy services	Rs.5.48 crore in 2007-08
	Net profit	Rs.0.79 crore in 2007-08
	Relationship with bankers	Good; The company has only current account
	Current order book	120 projects under implementation and are likely to generate about Rs.15.00 crore in the medium term.
	Receivables management	Weak

Datamatrix Infotech Private Limited

CRISIL has assigned a **CRISIL-BEE Grade 4** to **Datamatrix Infotech Private Limited**, which indicates '**Below Average**' ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	<ul style="list-style-type: none"> • Eaga Energy India Private Limited's presence in the energy services business is limited to having conducted seven energy audits. • Small size of operations - weak financial profile and support from the parent is likely to be limited until the company establishes a stronger economic rationale for the energy services business • Largely untested business model in the Indian context.
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Fact Sheet	Year of establishment	2004
	Registered office	T2, 1A and 8C, Millennium City, Information Technology Park, DN 62, Sector V, Salt Lake City, Kolkata, West Bengal Tel.: +91 33 3012 8485 Fax: +91 33 3012 8586 Email: info@eaga.co.in Website: www.eaga.com , www.eaga.co.in
	Managing Director	Mr. Deb A. Mukherjee
	Second tier management	Qualified and experienced
	Eaga India was established in 2004, when Eaga Plc, UK acquired the existing operations of information technology and geomatics. The operations of these firms, at the time of acquisition, were profitable. Eaga India began operations in the energy services business in 2005. Currently, the company has three business divisions: geomatics, information technology, and energy services.	

ESCO Related Business	<ul style="list-style-type: none"> • Two years in ESCO rated activities. Until 2007, Eaga India's energy services business had conducted only one energy audit. Till date, the company has conducted seven energy audits • Eaga India's target market in India for energy efficiency projects will be low-income households: the revenue model will be driven by benefiting from carbon credits. For larger energy savings projects, the company plans to arrange financing (from international agencies) for the customer, and supervise project implementation (which will be largely outsourced). • The company has a limited presence in India.
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Financial Performance	Revenues from energy services	Rs.476.00 lakh in 2006-07
	Net profit	Rs.16.00 lakh in 2006-07
	External debt	The company does not have any borrowing from financial institutions or banks.
	Projected turnover	Information not provided

ELPRO ENERGY DIMENSIONS PRIVATE LIMITED

CRISIL has assigned a **CRISIL-BEE Grade 3** to **Elpro Energy Dimensions Private Limited (Elpro)**, which indicates ‘**Good**’ ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	<p>Strengths</p> <ul style="list-style-type: none"> • Award-winning energy tracking and control system (ETrACS) serves as a unique selling point • Well-defined and strong financial model in place, ensuring regularity in receivables
	<p>Risk Factors</p> <ul style="list-style-type: none"> • Challenges of implementation of the ETrACS system and achieving customer satisfaction • Weak quality of internal systems and controls

Fact Sheet	Year of establishment	1991
	Registered office	#6,7, and 8, IV th ‘N’ Block, Dr. Rajkumar Road, Rajajinagar Entrance, Bangalore – 560010, Karnataka Tel.: +91 80 23123238, 23132035
	Chairman	Mr. Ramesh Singh
	Second tier management	Experienced and qualified
	<p>Elpro Energy undertakes energy audits, feasibility report preparation, detailed project reports, project integration, energy financing, turnkey project implementation, procurement and tendering, research and development, consultancy, and energy service-related activities. Elpro Energy works on a wide variety of technologies and applications, including lighting, heating, ventilation, air conditioning, energy management systems, motors, heat exchangers, boilers, and chillers.</p>	

ESCO Related Business	Eight years in ESCO rated activities
	The company has a total of 30 employees and has five certified energy auditors.
	The company's employees are experienced and qualified. All the engineers are well trained to undertake electrical audits.
	The company provides services across diverse sectors like textile, sugar, foundry, municipalities, telecom, automobiles, hotels, resorts, and pharmaceutical companies.
	The geographical reach of the company is mainly limited to South India in regions like Bangalore, Hosur, and Mysore.

Financial Performance	Revenues from energy services	Rs.1.66 crore in 2007-08
	Net profit	Rs.0.15 crore in 2007-08
	Relationship with bankers	Not applicable. The company only has a current account with its bank
	Projected turnover	Data not provided
	Receivables management	Good – 85 days

Energetic Consulting Private Limited

CRISIL has assigned a **CRISIL-BEE Grade 3** to **Energetic Consulting Private Limited**, which indicates ‘**Good**’ ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	Strengths <ul style="list-style-type: none"> • Competent management with over 10 years of experience in energy audits and consultancy • Long standing relationships with customers
	Risk Factors <ul style="list-style-type: none"> • Limited experience in project implementation • Small size of operations and weak internal controls constrain business scalability

Fact Sheet	Year of establishment	1995
	Registered office	A – 102, Runwal Tower, CHS, Runwal Nagar, ‘C’ Phase, Kolbad, Thane, Maharashtra
	Chief Executive	Mr. Rajesh Deshpande
	Second tier management	Qualified and experienced
	Energetic Consulting offers energy audits in diverse segments, including thermal and electrical energy audits, power quality study, waste heat recovery, cogeneration, water audits, zero discharge system, safety audit, and measurement and verification services.	

ESCO Related Business	The company has been conducting energy audits for the past 12 years. The company's track record in project implementation, however, is shorter; project implementation was added to its service basket in 2002.	
	Most of the staff is experienced in the energy services field. Second line of management is experienced and qualified	
	The company's role is largely that of an energy auditor. For the energy savings projects, the company has presence in heating, ventilating, and air conditioning (HVAC), and waste heat recovery	
	Customer profile comprises various SMEs, and also includes large companies like Hindustan Unilever Limited and Sandoz India Private Limited.	
	The company's geographical reach expands to Gujarat, Maharashtra, Tamil Nadu, Haryana, West Bengal, and Goa.	

Financial Performance	Revenues from energy services	Rs.70.00 lakh in 2007-08
	Net profit	Expected to be in the range of 15% - 20% in 2007-08
	Relationship with bankers	Limited
	Current order book	Rs.45.00 lakh
	Receivables management	The company has a receivables period of 140 days as against the expected 60 days.

Energy Management Services Private Limited

CRISIL has assigned a **CRISIL-BEE Grade 3** to **Energy Management Services Private Limited**, which indicates “**Good**” ability of the graded energy service company to undertake energy efficiency projects.

The grade factors in the business and financial risk profile of ENCON Services, a partnership firm established in 2001: Energy Management Services Private Limited was incorporated in February 2008 and will take over the business of ENCON Services

Grading Drivers	Strengths <ul style="list-style-type: none"> • Technically competent team • Above average quality of controls and systems
	Risk Factors <ul style="list-style-type: none"> • Small size of operations constrains business scalability • Limited project execution capability • Customer concentration risk

Fact Sheet	Year of establishment	1943
	Registered office	501, Plot – 218, Garden View, N1, CIDCO, Aurangabad – 431 003 Tel.: +91 240 2474525
	Chief Executive	Cdr. S. Kumar (Retd.)
	Second tier management	Qualified and experienced
	The company’s key services include energy audit, energy management on shared savings contracting basis, providing training in field of energy conservation, management consultancy for productivity improvement, and structural audit.	

ESCO Related Business	<ul style="list-style-type: none"> • Seven years in ESCO rated activities • The company has a highly qualified team that is able to undertake complex processes. • Energy Management has expertise in industries which include engineering, bulk drugs, formulation, steel, pulp and paper, ship-repair yards, railway workshops, corporate buildings, hospitals, water works, and milk dairy. • The company's clients are largely from the private sector.
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Financial Performance	Revenues from energy services	Approximately Rs.20 lakh in 2007-08
	Net profit	27.9% PAT margin in 2006-07
	Relationship with bankers	Limited; the company only has a current account.
	Current order book	Information not provided
	Receivables management	Good; as on March 31, 2007 there were no outstanding receivables.

Epic Energy Limited

CRISIL has assigned a **CRISIL-BEE Grade 3** to **Epic Energy Limited**, which indicates ‘**Good**’ ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	Strengths <ul style="list-style-type: none"> • Energy saving product portfolio supports the company’s business profile • Judiciously managed acquisition-led growth strategy
	Risk Factors <ul style="list-style-type: none"> • Track record in executing energy savings projects yet to be fully established • Limited diversity across customer profile and sector profile

Fact Sheet	Year of establishment	1991
	Registered office	A- 304, Winsway Complex, Old Police Lane, Opposite Andheri Station (East), Mumbai - 400 069, Maharashtra Tel.: +91 22 26822238 Email: vcs@epicenergy.biz
	Chief Executive	Mr. Nikhil Morsawala
	Second tier management	Qualified and experienced
	Epic Energy Limited makes power savers, automated timer switches, UPS, and solar panels (including solar inventor, solar cool cap, solar water heating system, solar lantern, compact solar inverter, and solar street light), which it installs at client locations and manages these to result in savings in power consumption.	

ESCO Related Business	Four years in ESCO rated activities
	Most of the staff is experienced in the energy services field. Second line of management is experienced and qualified
	The energy services business is limited to mainly lighting; some presence in HVAC
	Epic Energy's largest customers are municipalities (Navi Mumbai, Madurai, and Thane); these account for about 60.00 per cent of revenues. Private sector players account for the remaining 40 per cent of revenues
	The company's geographical reach expands to Maharashtra, Chhattisgarh, Tamil Nadu, Gujarat, Andhra Pradesh, Kerala, and Rajasthan

Financial Performance	Revenues from energy services	Rs.2.76 crore in 2007-08.
	Net profit	58.95 per cent in 2007-08
	Relationship with bankers	Limited; the company has bank guarantee facilities of Rs.25 lakh.
	Current order book	Information not provided
	Receivables management	Receivables period is relatively long and averages at around 120 days. Quality of receivables is good, since most of the customers are municipalities; there have not been any bad debts in the past.

FIVE-M ENERGY PRIVATE LIMITED

CRISIL has assigned a **CRISIL-BEE Grade 3** to **Five-M Energy Private Limited**, which indicates ‘Good’ ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	Strengths <ul style="list-style-type: none"> Technically competent and qualified team Large number of audits conducted by the company in several sectors give it an edge over its peers
	Risk Factors <ul style="list-style-type: none"> Declining trend in sales – the company’s revenues dropped to Rs.51 lakh in 2006-07 (refers to financial year, April 1 to March 31) from Rs.121 lakh in 2004-05 Limited project execution capability Weak receivable management

Fact Sheet	Year of establishment	1991
	Registered office	263, Sukhdev Vihar, New Delhi – 110 025 Tel.: +91 11 26840709, 41320263 Fax: +91 11 26840709 Mobile: +91 9810087309/9313060544
	Chairman	Mr. Surinder Singla
	Second tier management	Experienced and qualified
	Five-M mainly provides energy audits and consultancy services to its customers. The projects undertaken by the company are in diverse sectors like energy distribution companies, hospitals, pharmaceutical companies, infrastructure companies, hotels, and malls.	

ESCO Related Business	Five years in ESCO rated activities
	The company has a total of 13 employees and has seven certified energy auditors and two certified energy managers.
	The company's employees are experienced and qualified. All the engineers are well trained to undertake electrical audits.
	The company provides services across diverse sectors like energy distribution companies, hospitals, pharmaceutical companies, infrastructure companies, hotels, and malls.
	The geographical reach of the company is mainly limited to the National Capital Region (Delhi, Gurgaon, and Haryana)

Financial Performance	Revenues from energy services	Rs.51.00 lakh in 2007-08
	Net profit	Rs.(1.00) lakh in 2007-08
	Relationship with bankers	Good
	Projected turnover	Data not provided
	Receivables management	Weak – 198 days

Honeywell Automation India Limited

CRISIL has assigned a **CRISIL-BEE Grade 1** to **Honeywell Automation India Limited**, which indicates ‘**Very High**’ ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	<p>The grading is driven by Honeywell’s:</p> <ul style="list-style-type: none"> • Established market position in the energy services segment • Strong support from parent company • High degree of financial flexibility • Strong organizational structure and competent team
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Fact Sheet	Year of establishment	1984
	Registered office	56 and 57, Hadapsar Industrial Estate, Pune – 411 013, Maharashtra
	Chief Executive	Mr. J. R. Ellis
	Second tier	Qualified and experienced
	<p>Honeywell’s energy performance contracting provides a comprehensive single source, turnkey solutions for customers. The service basket of performance contracting include carrying out energy audits, identification of energy savings measures, solutions development along with detailed engineering, supply of equipment and systems, installation and commissioning of energy savings measures, operation and maintenance of energy savings measure and guaranteeing energy savings.</p>	

ESCO Related Business	Eight years in ESCO rated activities
	Most of the staff is experienced in the energy services field. Second line of management is experienced and qualified.
	The company provides energy services in HVAC systems, heat recovery system, steam and hot water system, compressed air system, water and fluid pumping systems, water and sewage treatment plant, electrical systems, and lighting.
	The company mainly deals with the private sector and has entered into broadly four sectors: healthcare (hospitals), commercial buildings, industry (pharmaceutical companies), and hospitality (hotels).
	The company's geographical reach expands to New Delhi, Tamil Nadu, Maharashtra, Kerala, and Goa.

Financial Performance	Revenues from energy services	Rs.13.00 crore in 2007
	Net profit	Information not provided
	Relationship with bankers	If required the company takes on term loans or capital funding for individual projects undertaken.
	Projected turnover	Rs.2,000.00 lakh
	Receivables management	103 days

INSTAPOWER LIMITED

CRISIL has assigned a **CRISIL-BEE Grade 3** to **Instapower Limited (Instapower)**, which indicates ‘Good’ ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	<p>Strengths</p> <ul style="list-style-type: none"> • Strong in-house research and development team, leading to development of new designs and other competitive advantages • Strong customer profile with presence across several sectors
	<p>Risk Factors</p> <ul style="list-style-type: none"> • No track record of the company in the energy servicing business • High cost of purchasing and installation of light emitting diodes (LED) stands as a considerable challenge for the company

Fact Sheet	Year of establishment	1986
	Registered office	S-19, Panschila Park, New Delhi – 110 017 Tel.: +91 11 26015000 Fax: +91 11 26014770
	Chairman	Mr. H R Vaish
	Second tier management	Experienced and qualified
	<p>Instapower manufactures light emitting diodes (LEDs). LEDs are used as substitutes for normal lighting products. The company undertakes installation and retrofitting of these LEDs for homes, industries and commercial establishments. Presently, the company is engaged in providing energy efficiency solutions through the sale of its products contracts with its customers.</p>	

ESCO Related Business	Less than one year in ESCO related activities
	The company has a total of 100 qualified and experienced employees but has no certified energy auditors.
	The company provides services across diverse sectors like railways, public works department, municipal corporations, government buildings, hotels, and hospitals.
	The products of the company are sold in the states of Maharashtra, New Delhi, Uttar Pradesh, and several other parts of the country

Financial Performance	Revenues from product sales	Rs.6.27 crore in 2007-08
	Net profit	Rs.1.15 crore in 2007-08
	Relationship with bankers	Not applicable. The company only has a current account with the bank
	Current order book	The company has already achieved sales of Rs.2.00 crore in 2008-09 and has a pending order book worth Rs.50.00 lakh which will be executed in the near future.
	Receivables management	Good – 61 days

INTESCO Asia Limited

CRISIL has assigned a **CRISIL-BEE Grade 4** to **INTESCO Asia Limited (IAL)**, which indicates 'Below Average' ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	<p>Strengths</p> <ul style="list-style-type: none"> Established presence of over 14 years in business and a track record of conducting more than 200 audits, coupled with strong technical support from the parent company.
	<p>Risk Factors</p> <ul style="list-style-type: none"> Small size of operations constrains business scalability. Regional concentration as its presence in energy service business is limited to southern India, mainly Bangalore and its neighboring regions. Weak financial risk profile.

Fact Sheet	Year of establishment	1993
	Registered office	#334, 4th Cross, 5th Main, Arakere MICO Layout, Off Bannerghatta Road, Bangalore – 560 076, Karnataka Tel: +91 80 2648 0726
	Chairman	Mr. R Vasu
	Second tier management	Average
	<p>The range of services provided by IAL includes energy audits and feasibility studies, engineering studies, project designing and implementation, project monitoring and verification, vendor and technology sourcing studies, and other online ESCO services.</p> <p>The major portion of the income comes from the project-related activities which account for about 75.00 per cent of the total income, while the energy audit related activities account for the balance.</p>	

ESCO Related Business	Fourteen years in ESCO rated activities
	Mr. R. Vasu leads the overall management of the company with a small team of nine permanent employees across various functions. IAL employs individuals on a contractual basis for its projects in various regions.
	The customer profile is diversified to some extent and the company mainly caters to sectors like information technology, data centers, BPOs, malls, and commercial complexes.
	Although the company has executed a few projects in other regions of India, the company has its presence limited to regions in and around Bangalore.

Financial Performance	Revenues from energy services	Rs.15.72 lakh in 2006-07
	Net profit from energy services	Rs.(1.73) lakh in 2006-07
	Relationship with bankers	None
	Current order book	Presently, three projects are in progress which is likely to generate a revenue of Rs.150.00 lakh over the next two years.
	Receivables management	Weak – 334 days (2006-07)

Thermax India Limited

CRISIL has assigned a **CRISIL-BEE Grade 2** to **Thermax India Limited**, which indicates ‘**High**’ ability of the graded energy service company to undertake energy efficiency projects.

Grading Drivers	Strengths <ul style="list-style-type: none"> Strong engineering capability backed by a large product offering High degree of financial flexibility Strong knowledge management capability
	Risk Factors <ul style="list-style-type: none"> Economic rationale for the energy services business yet to be established

Fact Sheet	Year of establishment	1960
	Registered office	D – 13, MIDC Industrial Area, R. D. Aga Road, Chinchwad, Pune - 411 019, Maharashtra Tel.: +91 20 274 75941 Fax: +91 20 274 72049 Email: info@thermaxindia.com Website: www.thermaxindia.com
	Chief Executive	Ms. Meher Pudumjee
	Second tier management	Qualified and experienced
	Thermax India Limited began the energy services business as a complement to its existing product offering – the energy service business is housed within the after sales (after warranty) services group. The role of the energy services team extends to consulting but does not include project execution	

ESCO Related Business	Four years in ESCO rated activities
	Most of the staff is experienced in the energy services field. Second line of management is experienced and qualified.
	The company is mainly in the field of boilers and heaters, absorption cooling, water and waste solutions, chemicals for energy and environment applications, power and cogeneration systems, air pollution and purification, and electrical fittings.
	The quality of the energy audit and consultancy services' customer profile is average and comprises of some large players and relatively smaller players.
	The company has a pan India presence and has also undertaken energy audits outside India

Financial Performance	Revenues from energy services	Rs.3,152 crore (including product sales) in 2007-08
	Net profit from energy services	Information not provided
	Relationship with bankers	The energy services business does not use any banking support. Notwithstanding, the company has access to corporate bank lines.
	Current order book	Approximately Rs.21 crore; these orders include jobs relating to the modification of crackers and firing systems.
	Receivables management	Good – 60 days

ICRA Graded ESCOs

1. JOHNSON CONTROLS (INDIA) PVT. LTD.

ICRA has accredited Johnson Controls (India) Pvt. Ltd. (JCL) and assigned a ICRA-BEE Grade 1 to the company. The grading denotes very high ability to carry out energy efficiency audits and implement energy saving projects. The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Track Record and Market Position	20	18
2	Organization risk	40	40
3	Financial Risk Analysis	40	32
	Total	100	90

Strengths

- Qualified and professional management with back up from the parentage of Johnson Control US which is a worldwide leader in power solutions and Building efficiency technologies and services.
- Johnson Controls US has experience of over 30 yrs experience and has implemented over 100,000 sustainable energy-efficient projects for large base of customers.
- Large and reputed client base in India with experience of working with over 500 clients.

Weaknesses

- No dedicated track record in ESCO business under revenue sharing model in India although the company has substantial experience in energy related projects under building efficiency and automation.
- Lack of diversity in terms of energy efficiency related projects which are dedicated to building efficiency and automation.
- Absence of dedicated energy related R&D facilities in India.

Company Profile

Established in 1996, Johnson controls (India) Pvt. Ltd (JCL) is a business solutions company in the field of Heating, Ventilation, Air conditioning (HVAC), Building efficiency and energy management. The main focus is to increase a buildings energy efficiency and operational performance. Johnson Controls building efficiency operates in more than 125 countries with 500 offices around the globe. In India JCL has been involved in the engineering, design and commissioning of over 1000 applications of building automation and control systems, Chillers and HVAC systems and Fire and security systems.

JCL is a wholly owned subsidiary of Johnson Controls (US), hence enjoys strong parentage in terms of support both technically as well as financially. Globally Johnson Controls has over US\$3.7 billion of installed capital performance contracting projects with over US\$4 billion in guarantees across 765 active projects. In terms of audits conducted globally they have performed over 15,000 energy audits and posses 700+ strong team dedicated to ESCO services.

2. LLOYD INSULATIONS (INDIA) LIMITED

ICRA has accredited Lloyd Insulations (India) Limited and assigned a ICRA-BEE Grade 2 to the company. The grading denotes high ability to carry out energy efficiency audits and implement energy saving projects. The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Track Record and Market Position	20	17
2	Organization risk	40	34
3	Financial Risk Analysis	40	32
	Total	100	83

Strengths

- Long established track record in Insulation business with strong client base; market leader in thermal insulation in India , with an estimated 70% market share
- Economies of scale arising from the large size and scale of operations
- Ability to offer comprehensive range of services ranging from material supply, turnkey contracting (Design/engineering, execution, performance audit etc.), energy audits and technical consultancy.
- Facilities for In-house manufacturing for insulation materials is a source of competitive strength
- Robust Profitability and strong debt protection indicators

Weaknesses

- Limited record in ESCO business.
- Does not cater to all aspects of energy saving/efficiency business

Company Profile

Lloyd Insulations (India) Limited (Lloyds), established in 1956, is premium turnkey contractor & manufacturer in the area of Thermal and Acoustic Insulation, refractory Lining, Pre-engineered & Prefabricated buildings – sandwich panels with over 5 decades of experience. The key areas/product lines of the company include thermal insulation, panel systems, roofing and wall cladding, anti corrosive materials, water proofing and fire proofing systems. Lloyds is ISO 9001: 2000, 14001: 2004 & OHSAS 18001 certified organization covering both supply and contracting activities for its complete range of Products & Services. The company has executed thermal insulation design, supply, application and thermal insulation audit work for various Infrastructure sector like Power Plants, Refinery & Petrochemicals, LNG, Fertilizer, Pulp & Paper, Steel, Cement etc. & Building Industry during 50 years of its operations. The company has executed over 15,000 projects in both of its energy and non-energy.

3. MITCON

ICRA has accredited MITCON Consultancy Services Limited (MITCON) and assigned a ICRA-BEE Grade 2 to the company. The grading denotes high ability to carry out energy efficiency audits and implement energy saving projects. The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Track Record and Market Position	20	13
2	Organization risk	40	30
3	Financial Risk Analysis	40	31
	Total	100	74

Strengths

- Established track record in technical consultancy business with focus on energy audit, renewable energy and carbon emission business
- Diversified client base under energy related business, spanning over 20 sectors and varied services like power, refrigeration, air compressors, renewable energy etc.
- Qualified and professional management with ICICI, IDBI, IFCI and other state bodies being majority equity stake holders
- Association with professional bodies like Indian Renewable Energy Development Agency Ltd. (IREDA), Petroleum Conservation Research Association (PCRA) and other state bodies provides support in terms of soft term finance and expertise on energy conservation.
- Healthy operating margins and profitability, conservative capital structure

Weaknesses

- Modest size of operations in terms of revenue and order book.
- No dedicated track record in ESCO business under revenue sharing model though the company has substantial experience in energy audits and feasibility studies for energy conservation.
- Absence of technology tie-ups and R&D activities
- Limited support from group companies.

Company Profile

Established in 1982, MITCON is a ISO 9001 company which provides consultancy and training services to existing & new entrepreneurs covering diverse industry sectors viz. Project Counseling (new / restructuring), preparation of Techno-Economic Feasibility Reports, Appraisals, Market Survey, Study Reports in various Industry Sectors, Evaluation Study, Project Engineering and Implementation Services.

Under the consultancy services MITCON has a dedicated division which looks after the Energy and Carbon services. This division basically looks after energy audits, renewable energy services and carbon emission consultancy. The services provided under this division include Energy audit and conservation management services and Energy efficiency and conservation project services.

The main job of the Energy efficiency division has been to conduct energy audit to identify areas for energy savings, establish benchmarks for energy consumption, and undertake feasibility study for captive cogeneration facilities and so on.

The company has been promoted by various banks and state level institutions like ICICI Bank, IDBI, IFCI, SICOM and MIDC.

4. OPTIMUMAIR SOLUTIONS PRIVATE LIMITED

ICRA has accredited Optimumair Solutions Private Limited and assigned a ICRA-BEE Grade 4 to the company. The Grading denotes below average ability to carry out energy efficiency audits and implement energy saving projects.

The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Track Record and Market Position	20	8
2	Organization risk	40	16
3	Financial Risk Analysis	40	17
	Total	100	41

Strengths

- Well-experienced Promoters, each of whom have more than 30 years of experience
- Diversified client portfolio in terms of sector exposure
- Reasonably large number of energy audits carried out

Weaknesses

- Small size of operations with low profitability levels
- Relatively new player in this business
- Small organizational structure and resource base which constrains the number of energy audits that can be carried out simultaneously.
- Relatively weak with respect to certification, quality systems, technology tie-ups, R&D etc.
- Below average financial strength

Company Profile

Optimumair Solutions Private Limited was established in 2002 by four technocrats with the objective of providing technology solutions for optimizing energy resources.

The main operation of the company has been to design, erect, commission and service Compressor Control Systems and Equipments and related accessories for efficient functioning of compressors and vacuum systems. The company last year ventured into energy saving solutions for air-conditioners and refrigerating compressors and chillers in association with M/S Smartcool Systems, UK.

The company has been undertaking projects for only the last five years and has a small size of operations. The company is looking at additional revenues from the new businesses it is venturing into, i.e. air-conditioners, refrigeration and chillers. The company has carried out more than 100 energy audits in this period for a number of industries such as FMCG, textile, tyre manufacturing, engineering, paper, power, petroleum, cement etc.

The organizational size of the company is currently small and it has only one part-time energy auditor. But the company is looking at setting up an additional vertical for the new business lines it is venturing into and will also appoint another energy auditor for these services. The promoters themselves have more than 30 years of experience and are well-qualified.

5. PETRONET MHB LIMITED

ICRA has accredited Petronet MHB Limited (Petronet) and assigned a ICRA-BEE Grade 4 to the company. The grading denotes below average ability to carry out energy efficiency audits and implement energy saving projects.

The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Business Risk Analysis	20	4
2	Organization risk	40	24
3	Financial Risk Analysis	40	24
	Total	100	52

Strengths

- Strong ownership pattern
- Qualified and professional management ; both technical as well as financial support is available from the promoters
- Strong capitalization despite losses suffered in its core operations till last year

Weaknesses

- No dedicated track record of ESCO business as such, business carried out till date includes five energy saving projects implemented internally.
- No concrete plans as such for funding of equipments under ESCO, and revenue sharing model under ESCO.
- No technology tie-ups, R&D and patents.
- Limited equipment and employee base

Company Profile

Established in 1998, Petronet Mangalore-Hassan-Bangalore Ltd. (Petronet MHBL) is an ISO 9001 company which works on common carrier principle to provide product transportation service to any/all shippers upon reasonable request. PMHBL is a joint venture company promoted by Petronet India Ltd, HPCL, ONGC and banks and financial institution.

The total cost of the whole project for which the PMHBL was floated was Rs. 667 crore which was funded with a debt to equity ratio of 3:1; the project was completed within the approved cost. This pipeline will evacuate petroleum products from Mangalore refinery of MRPL and bring to Hassan and Devangonhi at the terminals owned by the Public Sector Oil Marketing Companies Petrol , Diesel , Kerosene, Naphtha, Aviation turbine can be pumped through this pipelines and will meet the needs of Hassan, Mysore Mandya, Timkur Chikmanglur , Shimoga, Kolar , Bellary, Riachur , Bangalore rural and urban districts of Karnataka state.

The company at present has carried out five energy savings projects internally. The projects carried out relate to energy conservation in motors and pumps, process control and energy savings in lighting systems.

6. PRANAT ENGINEERS (PRIVATE) LIMITED

ICRA has accredited Pranat Engineers (Private) Limited and assigned a ICRA-BEE Grade 3 to the company. The grading denotes good ability to carry out energy efficiency audits and implement energy saving projects.

The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Track Record and Market Position	20	17
2	Organization risk	40	20
3	Financial Risk Analysis	40	21
	Total	100	58

Strengths

- Existence of in-house manufacturing facility for electrical products as well as R&D capabilities
- Track record of having executed saving projects on ESCO basis on revenue sharing basis
- Large and reputed client base

Weaknesses

- Smaller scale and size of operations
- Relatively weak financial profile

Company Profile

Pranat Engineers, established in 1994, is empanelled with Bureau of Energy Efficiency as an ESCO. It is one of the few companies in India which has executed energy saving projects on ESCO model basis, involving guaranteed performance contracts and revenue sharing. It has conducted several energy audits, power quality analysis and implemented energy saving solutions in various industries and Government Organizations.

Pranat's group company, Alien Energy Pvt Limited (Alien) is primarily into manufacturing energy saving devices such as energy efficient lighting products, electronic circuits for energy efficient products, energy savers for ACs, cooling tower fans, solar energy based lighting and water heaters.

Pranat has so far carried out over 100 projects on ESCO basis. Under ESCO model, the company guarantees cost savings through the turnkey installation of proprietary/commercially available energy conservation products and services. Typically, the company can achieve energy savings of 20-40% with a 2 to 5 year payback period. The payment to Pranat is a percentage of the cost sharing actually achieved.

7. POWER RESEARCH & DEVELOPMENT CONSULTANTS PRIVATE LIMITED

ICRA has accredited Power Research & Development Consultants Private Limited (PRDC) and assigned a ICRA-BEE Grade 3 grade to the company. The Grading denotes good ability to carry out energy efficiency audits and implement energy saving projects. The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	
1	Business Risk Analysis	20	12
2	Organization risk	40	24
3	Financial Risk Analysis	40	19
	Total	100	55

Strengths

- Established track record in field of consultancy services for power, biogas, cement, steel and sugar sectors; has conducted more than 300 projects in the last five years
- Well-experienced management and senior consultants with more than 30 years of experience.
- Strong client base with more than 200 clients.
- Profitable operations with improving net margins (9.31% in FY 2007)

Weaknesses

- Small size of operations
- Exposure to very limited number of sectors
- Limited number of audit instruments (only 2), although the company is looking to purchase more instruments soon
- Relatively weak with respect to certification, quality systems, technology tie-ups and patents
- Moderate financial strength with relatively high gearing levels compared to the peer set

Company Profile

Power Research & Development Consultants Private Limited (PRDC) was established in 1994. The company has been involved in consultancy services for the last 14 years and has also entered into development of power system simulation software. The company carries out projects for State Electricity Boards and Utilities, IPPs (Independent Power Producers) and companies in other industries such as biogas, cement, steel and sugar. The company has carried out more than 300 projects in the last five year period and has a client base of around 200. PRDC has also carried out 9 energy audits for customers involved in supply of electricity. The company has gained expertise in this field from the large number of projects that they have conducted over the years. The value of the business conducted by the company has been increasing accordingly. The company has also been recently recognized by Visvesvaraya Technological University (VTU) as a research centre which allows PRDC to train individuals and provide Ph.D. and M.Tech. degrees. The company currently has four different verticals in its company, viz. Consulting, Software Development, Embedded System & Industrial Automation and Power Engineering & Training. The company would later on establish another vertical for ESCO services. The company currently has strength of ~ 100 employees which it wishes to increase to 200 by end of FY 2009.

8. RASAN INFOCOM PRIVATE LIMITED

ICRA has accredited Rasan Infocom Private Limited and assigned a ICRA-BEE Grade 5 to the company. The Grading denotes poor ability to carry out energy efficiency audits and implement energy saving projects. The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Track Record and Market Position	20	8
2	Organizational Risk Analysis	40	8
3	Financial Risk Analysis	40	9
	Total	100	25

Strength

- Long association with Larsen & Toubro (L&T) wherein Rasan supplies its Energy Management System to L&T and L&T refers clients for energy management to Rasan. Rasan also sources the field devices for energy audit from L&T

Weaknesses

- Small size of operations and limited experience in conducting energy audit projects
- The current set up of the energy division and the company's financials are not conducive to the progress of EA and ESCO projects.

Company Profile

Rasan Infocom (henceforth as Rasan) is a software developer that provides end-to-end solutions through various Strategic Business Units; Software Development, End-to-End System Interaction and Consulting, IT Enable Services and Energy Management Division.

Rasan has developed an advanced Energy Management System (EMS) namely PowerMan, which logs energy information such as consumption and power quality parameters and analyses it to diagnose equipment heat consumption and usage patterns.

Rasan operates on an OEM basis by supplying PowerMan to Larsen & Toubro (L&T) which then sells it under its own brand. It has a tie up for hardware procurement of smart and pulse meters, control equipment etc with L&T. L&T refers its clients to Rasan for Energy Audit (EA).

Rasan has a core team under Technology Innovation Centre (TIC) formed by engineers and software developers, which together recommend suitable energy management system design to clients. They conduct EA by sourcing energy field devices such as meters, programmable logic devices and thermostats from its partners and their own EMS to study customer's energy usage function, Inspect site equipment and site condition in terms of energy consumption, Design and recommend energy system suitable for customer's business and Analyse energy data and identify instances for load imbalances, poor and incorrect power factor, harmonics and areas of wastage.

9. RAYON APPLIED ENGINEERS

ICRA has accredited Rayon Applied Engineers and assigned a ICRA-BEE Grade 4 to the company. The grading denotes below average ability to carry out energy efficiency audits and implement energy saving projects.

The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Business Risk Analysis	20	13
2	Organization risk	40	12
3	Financial Risk Analysis	40	21
	Total	100	46

Strengths

- Proprietor is well qualified with extensive experience in engineering industries.
- In-house manufacturing/fabrication facility for most of energy saving products

Weaknesses

- Small size and scale of operations; No formal structure of management & organization
- No track record in ESCO projects
- Low financial strength

Company Profile

Rayon Applied Engineers (Rayon), a proprietorship firm established in 1996 by Mr. Ramachandra, is an energy management firm engaged in Energy Auditing (Both Thermal & Electrical), Design & development of energy saving products such as heat transfer equipments, chilling plants, cooling towers, heat exchangers etc. The profile of some of the key products manufactured/service provided by the firm include energy audit, heat exchange solutions and material handling systems. The firm follows the outright sale model for its product & services and has never executed any project on ESCO basis.

10.REAL ENERGY

ICRA has accredited Real Energy and assigned a ICRA-BEE Grade 4 to the company. The Grading denotes poor ability to carry out energy efficiency audits and implement energy saving projects. The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	
1	Track Record and Market Position	20	10
2	Organization risk	40	16
3	Financial Risk Analysis	40	17
	Total	100	43

Strengths

- Well qualified management with good experience in Energy services.
- High value and innovative ESCO projects in hand.
- Focused organization with good internal control over all the operations.

Weaknesses

- Relatively small size of operations and start up nature of the company.
- Relatively high risk profile as all the projects are in the nature of revenue sharing and is contingent upon the company's ability to deliver the savings promised.
- Since none of the projects have been completed as yet, the companies do not have an established track record.

Company Profile

Real Energy is a technology company established in 2005. It has been promoted by technocrats with decades of experience and expertise in the energy industry, especially in energy conservation projects. Presently Real energy offers energy conservation and energy efficiency projects on ESCO basis in partnership / collaboration with M/s SERVO MAX INDIA LTD. a major manufacturer and supplier of energy saving street light controllers, servo controlled stabilizers, transformers, power quality improvement systems and automatic power factor controllers etc. M/s SERVO MAX has a turnover of more than Rs.50 Cr as on the last financial year ending and its operations are profitable.

Real Energy offers projects from concept to commissioning. It starts with a preliminary walk through energy study, followed by detailed energy audit of the facility. After the energy audit is completed, that project is taken as "Shared Energy Savings Performance Contract". The client does not need to invest any amount upfront since the initial investments are made by Real Energy, and the payment that the company gets is linked to the actual energy savings which accrues to the customer.

11.SAKET PROJECTS LIMITED

ICRA has accredited Saket Projects Limited (Saket) and assigned a ICRA-BEE Grade 3 to the company. The grading denotes good ability to carry out energy efficiency audits and implement energy saving projects.

The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Track Record and Market Position	20	14
2	Organizational Risk Analysis	40	18
3	Financial Risk Analysis	40	23
	Total	100	55

Strengths

- Established track record in energy audit (EA) business with strong client base throughout India. Past experience in implementing successful ESCO projects based on defined performance parameters
- Good business potential for EA in Gujarat owing to statutory requirement of EA for all major industrial and commercial establishments in Gujarat
- Recognized in the field of EA by all major accreditors in India

Weaknesses

- The company has not executed any ESCO project after 2005. It has been executing only EA and other energy management activities since then. The revenue from the energy management division has decreased substantially after 2005.
- Despite profits in the energy division, overall the company was in losses till FY 2005 owing to loss in its pharmaceutical division. Due to this, its term loan had turned an NPA

Company Profile

Saket Projects Ltd (Saket) started its operations in Ahmedabad, Gujarat in 1995. Saket operates four divisions namely Event management, Industrial Publication, Pharmaceutical and Energy Management.

Energy Management Division (EMD) was set up in 1995. Saket is one of the 35 companies in Gujarat mandated by The Chief Electrical Inspector of Gujarat to conduct Energy Audits (EA). EMD offers a range of service package comprising of energy conservation study, implementation assistance & assertion, future monitoring and has developed strength to undertake multiple assignments simultaneously within the specified time frame.

Saket has been conducting EA for more than a decade. As an extension of EA, Saket ventured into 'Energy Service Companies' (ESCO) concept, i.e. providing energy management services on "Energy Performance Contract (EPC) Basis" with mutually agreed identified / ascertained / realized saving. It is capable to undertake Design, Detailed Engineering, and Execution & Commissioning of such projects under ESCO Concept with performance guarantee.

12.SALZER ELECTRONICS LIMITED

ICRA has accredited Salzer Electronics Limited (SEL) and assigned a ICRA-BEE Grade 3 to the company. The grading denotes good ability to carry out energy efficiency audits and implement energy saving projects.

The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Track Record and Market Position	20	15
2	Organization Risk Analysis	40	24
3	Financial Risk Analysis	40	27
	Total	100	66

Strengths

- Established track record in electrical & electronics equipment industry including human movement detectors. Market leader in rotary switches in India with 40% market share and largest producer of rotary switches and cable ducts in Asia.
- Govt. of India recognized R&D Centre of more than 15 engineers.
- In-house manufacturing set up for energy saver units (for lighting) and toroidal transformers.

Weaknesses

- Relatively young energy savings division
- No experience in energy efficiency projects other than lighting

Company Profile

Salzer Electronics Limited (Salzer), was established in 1985 to design and manufacture world-class cam operated rotary switches in technical collaboration with Saelzer Schaltgerate Fabrik, GmbH., Germany. Salzer manufactures load break switches, proximity switches, wiring ducts and terminal connectors with CSA-NRTL/C approval, modular wiring accessories and allied specialty products with international approval and innovative designs. It is the market leader in India for rotary switches and has set up a new manufacturing and trading unit to export its products all over the world covering 41 countries. It has successfully launched more than 50 new products in the market.

Salzer manufactures Salzer Energy Saver (SES), which is an integrated remote controlled energy saving and monitoring solution for street / outdoor lighting. SES guarantees 30% energy saving under normal working conditions. It reduces the power consumption by reducing the voltage to the lamps, taking care to maintain the lux levels as per regulatory standards. The system is suitable for all external (outdoor) lighting such as street lighting, commercial lighting, large, medium and small scale industries, IT parks, SEZ's, educational institutions, hotels and resorts, railways, corporations and municipalities, residential complexes and any other mass outdoor lighting application. The company conducts energy audits and takes up Energy Service Companies (ESCO) projects by utilizing its SES to save energy for the client.

13. SEETECH SOLUTIONS PVT LTD

ICRA has accredited SEE Tech Solutions Pvt Ltd and assigned a ICRA-BEE Grade 3 to the company. The grading denotes good ability to carry out energy efficiency audits and implement energy saving projects.

The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Track Record and Market Position	50	12
2	Organization risk	20	24
3	Financial Risk Analysis	30	29
	Total	100	65

Strengths

- Established track record as a BEE accredited energy auditing firm
- Presence in almost whole of India along with clientele in Pakistan, Sri Lanka, Oman and Hong Kong
- Well qualified Energy Management Professionals including 6 BEE Certified energy Auditors.

Weaknesses

- Moderate financial strength
- High project cost overruns in the past

Company Profile

SEE Tech Solutions Pvt. Ltd was started on 1 April 1993, to provide viable energy cost cutting technologies and to help industry to maintain safe working environments. It is a BEE accredited energy auditing firm and has been working to improve the industrial safety and energy cost minimization since last 15 years. "SEE" in the name of the company stands for SAFETY, ENERGY & ENVIRONMENT.

SEE-Tech Solutions offer services in the field of industrial safety improvement, energy cost minimization, CDM projects and implementation of energy conservation building code projects.

It has also developed Knowledge Based Software Solutions for Thermal & Electrical Energy Conservation. SEE Tech is the approved Energy Audit consultants for Central & State nodal agencies like BEE, MEDA, GEDA, MPUVN etc.

14. SGS INDIA PVT. LTD.

ICRA has accredited SGS India Pvt. Ltd (SGS) and assigned a ICRA-BEE Grade 3 to the company. The grading denotes good ability to carry out energy efficiency audits and implement energy saving projects.

The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Track Record and Market Position	20	12
2	Organization risk	40	26
3	Financial Risk Analysis	40	28
	Total	100	66

Strengths

- Good business potential for EA from the large client base of SGS globally
- Recognized by major accreditation institutions in India and various State Govt. bodies.
- Financial support from parent group, SGS

Weaknesses

- No clear strategy on ESCO projects. Low priority to the energy audit division in comparison to other business lines
- Very small in energy management business

Company Profile

SGS (Société Générale de Surveillance) is a global verification, testing and certification organization offering quality related technical services. SGS was established in 1878 with its global corporate head office at Geneva, Switzerland and operates in 140 countries. It has 850 offices and subsidiaries, 342 laboratories and 42,000 employees. SGS India Pvt. Ltd. (henceforth as SGS) was set up in 1950. SGS provides all services related to quality in industry such as inspection, expediting, testing, project management, risk management, vendor pre-qualification surveys, design reviews, commissioning, statutory certification, quality assurance services, consultancy, energy audit etc. The business lines of SGS include Agriculture, Consumer Testing, Environment, Governments and Institutions, Industrial, Systems, Marine, Trade Assurance etc. It also provides tailor made services to many governments and institutions covering import/ export verification schemes, customs services and investment monitoring. The energy division of the company undertakes the following processes:

- Standard and labelling studies in energy efficient equipments
- Energy management consultancy
- Energy Audits: Electrical audits and Thermal Audits

The Energy Audit (EA) services were launched in 1998.

15.SIEMENS BUILDING TECHNOLOGIES PVT. LTD

ICRA has accredited Siemens Building Technologies Pvt. Ltd (SBTL) and assigned a ICRA-BEE Grade 1 to the company. The grading denotes very high ability to carry out energy efficiency audits and implement energy saving projects.

The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Business Risk Analysis	20	18
2	Organization risk	40	34
3	Financial Risk Analysis	40	36
	Total	100	88

Strengths

- Qualified and professional management with back up from the parentage of Siemens India as well as Siemens , Germany which is a worldwide leader in power solutions and Building efficiency technologies and services.
- Strong experience of the parent, which has executed over 5000 energy audits since 1995
- Large and reputed client base in India

Weaknesses

- No_dedicated track record in ESCO business under revenue sharing model in India though the company has substantial experience in energy related projects under building efficiency and automation.
- Lack of diversity in terms of energy efficiency related projects which is dedicated to building efficiency and automation
- Absence of dedicated energy related R&D facilities in India.

Company Profile

Established in Oct, 2007, Siemens Building Technologies Pvt. Ltd (SBTL) was earlier operating as a division of Siemens Limited which was incorporated in 1956 in India. To fully concentrate on the growing need for energy management services, it was hived off as a wholly owned subsidiary of Siemens Limited as SBTL since October 2007. SBTL is a business solutions company in the field of Heating, Ventilation, Air conditioning (HVAC), Building efficiency and energy management.

Worldwide Siemens Building Technologies (SBT) provides a complete offering of technical infrastructure for security, comfort and efficiency in buildings. SBT is present in over 42 countries around the world and has eight manufacturing facilities in Europe, the US and Asia. Global revenues of SBT exceed 4.80 billion Euros. As stated earlier, SBT is a subsidiary of Siemens Ltd. and is one of the leading solution providers for “Intelligent Buildings”. It operates in the area of Building Automation, Heating and Ventilation, Fire detection, Security systems and Access control, Energy & Environmental services business. Siemens is also a partner for Client Climate Initiative (CCI) at global level and is a recommended ESCO by CCI in India; Siemens is actively participating in this initiative.

16. TRANSPARENT ENERGY SYSTEMS PRIVATE LIMITED

ICRA has accredited Transparent Energy Systems Private Limited (TESPL) and assigned a ICRA-BEE Grade 3 to the company. The Grading denotes good ability to carry out energy efficiency audits and implement energy saving projects.

The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Track Record and Market Position	20	14
2	Organization risk	40	22
3	Financial Risk Analysis	40	25
	Total	100	61

Strengths

- Established track record in the manufacture and supply of boilers and heaters, waste heat recovery systems and ammonia absorption plants
- Profitable operations (as on 31.03.2007)
- A large client base spread all over the country
- Technical Tie-Ups with foreign companies for each of the major product lines, strong R&D capabilities as demonstrated in the patents obtained so far
- Well-experienced management

Weaknesses

- Limited experience in direct energy audits and ESCO (Energy Service Company) projects
- Not much diversification in business lines
- Modest size of operations
- Relatively weak on certification
- High employee attrition rates

Company Profile

Transparent Energy Systems Pvt. Ltd. (TESPL), established in 1986, provides customer specific solutions in a wide range of products primarily in the field of energy efficiency/improvement/energy conservation. The key product lines of the company include waste heat recovery systems, ammonia absorption refrigeration plants, boilers and heaters and cogeneration systems. The company started with the manufacturing of small capacity boilers in 1986 and eventually moved to high capacity boilers. It was amongst the first to introduce 93% efficient small capacity boilers in 1988 and subsequently amongst the first to introduce 95% efficient high capacity boilers in 1996. The company entered the Heat Recovery Systems market in 1994. Currently, Waste Heat Recovery Systems (WHRS) is the largest contributor to the turnover of the company. TESPL has manufacturing facilities at Shirwal and Bhosari (both near Pune) for the above equipments. The company has also purchased land at Lonand in MIDC area near Pune for further setups. TESPL has carried out projects all over the country though most of the projects are concentrated in the states of Maharashtra and Gujarat. In the last three years the company has also received high-value projects from the states of Andhra Pradesh, Tamil Nadu and Rajasthan. The company has also carried out projects in Germany, UAE, Malaysia, Iran and Singapore.

17. TRANE INDIA LIMITED

ICRA has accredited Trane India Limited (TIL) and assigned a ICRA-BEE Grade 1 to the company. The grading denotes very high ability to carry out energy efficiency audits and implement energy saving projects.

The distribution of marks against the parameters is as follows:

No.	Parameter	Maximum Score	Score Assigned
1	Track Record and Market Position	20	18
2	Organization risk	40	34
3	Financial Risk Analysis	40	33
	Total	100	85

Strengths

- Substantial financial and technical strength arising out of Trane parentage, which is one of the global leaders in energy management systems.
- Strong and diversified client base
- One of the largest suppliers of HVAC products and services in India

Weaknesses

- ESCO operations not started in India yet.
- No experience of handling complex energy audit in India

Company Profile

Trane, a wholly owned subsidiary of Ingersoll Rand (NYSE: IR), provides systems and services that enhance the quality and comfort of air in homes and buildings around the world. Trane is one of the largest manufacturers of commercial heating, ventilation, air conditioning and building management product and services with revenues of over US\$6 billion in 2006. Through its two premium brands – Trane and American Standard Heating & Air Conditioning – the business offers a broad range of energy-efficient heating, ventilation and air conditioning solutions.

Trane India limited is registered company in US and it has a liaison office in India. Trane India has four offices across India that provides products and services mentioned above. Its main focus is on providing technical support for clients in respect of Integrated Comfort Systems including equipment, controls, services, comprehensive maintenance and facility management solutions and parts. Trane is among the top suppliers of integrated comfort systems providing commercial heating, ventilating and air conditioning (HVAC) systems along with controls and services in India and is a thought leader on energy efficiency in the HVAC industry and its role in environmental responsibility

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