

The ESCO Business

ESCO has great potential to help the Government with its mission "Power for all villages by 2007"

A typical energy service company (ESCO) identifies and evaluates energy-saving opportunities in industrial units, commercial complexes, hospitals, municipalities and utilities, among others, by using energy audit tools and by recommending a package of improvements that can pay for itself through the resultant savings.

The ESCO will guarantee that savings would meet or exceed annual payments to cover all project costs, usually over a period of seven to 10 years. If savings do not materialize, ESCO will pay the difference and not have to be borne by the client or the company implementing the project. ESCO services are comprehensive and savings are guaranteed through implementation, monitoring, measurement and verification.

The ESCO minimizes the risk for the customer from inflated construction costs and underachieved savings. The firm provides maintenance services, if necessary and if required by the customer. The challenge for ESCO is working with the customer to overcome their concerns regarding value of service and amount of their payment. The ability to satisfy the concerns of its customers defines ESCO's success. Figure 1 below demonstrates the nature of the transaction between the ESCO and the customer.

The ESCO typically promises to

generate energy efficiency and cost savings through an Energy Savings Account (ESA). The customer commits to a payment schedule.

The fundamental concern that ESCO addresses is the issue of performance. Can ESCO design and install a system to enhance the overall design and purpose of the facility being evaluated? Can ESCO install the system and maintain the system under the proposed design? Will the system actually yield the proposed results or savings? The greater the capacity of ESCO to contractually alleviate these concerns, more likely ESCO will be successful in engaging the customer in an energy services performance contracting project.

The ultimate objective of ESCO is to provide performance-based financing. When ESCO's payments are contingent upon the realization of energy cost savings, then the vast majority of customers' objections can be quickly and decisively eliminated. Contingent-based payments require the system to be installed according to design and by alleviating the issue of cost overruns for the customer. This places the performance of the system squarely on the shoulders of the ESCO. By making it possible for the ESCO to provide these contractual rights to the customer, the market framework is set for the ESCO to be able to adequately interest the customers and possibly the

banks to partake.

ESCOs in India

India has a small but growing community of ESCO entrepreneurs who have emerged over the past few years. As energy costs are steeply rising, managing energy costs has become a critical factor in profitability.

Some of the country's first ESCO demonstration projects implemented through performance contracting and guaranteed savings financial arrangements by ESCOs and energy efficiency consultants are:

- A project to build energy-efficient lighting retrofit for New Delhi Municipal Corporation's Palika Kendra, implemented by DSCL ESCO Ltd, has resulted in 48 per cent load reduction from 264 to 138 kWh.

- A demand-side management program for Ahmedabad Electric Co, managed by Asian Electronics Ltd, resulted in projected savings of 5.04 million kWh/year (Rs 30.24 million a year). The total project cost was Rs 75.25 million.

- A 135-room five-star hotel in Hyderabad saved Rs 33 lakh (Rs 3.3 million) in a year on electricity and oil costs - 25 per cent of the hotel's annual energy bill - thanks to EE measures implemented by Shri Shakti Alternative Energy Ltd.

- A Rs 307 lakh (Rs 30.7 million) - project designed by an ESCO for Airport Authority of India, IGI Airport is expected to result in annual savings of Rs. 386 lakh (Rs. 38.6 million) - a return of investment of 125 per cent.

The small numbers of ESCOs that have emerged in India have come through after surmounting several barriers. Some of India's early entrants in the ESCO business have implemented projects in countries like China, Pakistan, Indonesia and Kenya, and their project planning and financial structuring skills are highly sought after in the global market.

Indian ESCOs typically do not have large assets to bank upon. Therefore, while they have the technical capability to identify and custom-design projects

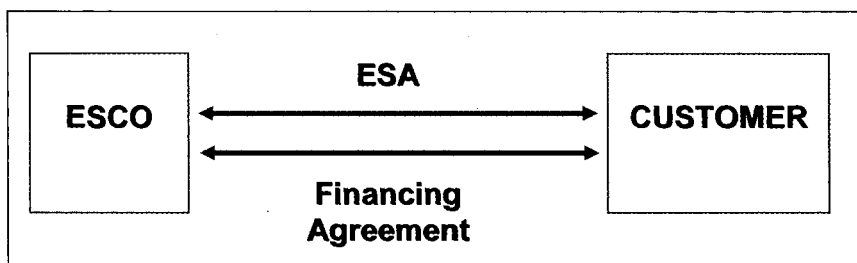


Figure 1: A typical ESCO Model

that deliver energy saving, they are often unable to convince their clients, investors and bankers about the certainty of delivering the savings.

To strengthen this business model, United Nations Environment Program and the World Bank, with funding from UN Foundation, have been implementing a technical assistance project since 2002, for developing financial intermediation mechanisms for energy efficiency investments in India, China and Brazil, known as the Three-Country Energy Efficiency project (3CEE).

Project partners UNEP-URC (UNEP Risoe Centre on Energy, Climate and Sustainable Development, Risoe National Laboratory), Denmark, recently organized an International Cross Exchange in Beijing in 2005, to bring together recent ESCO experiences and their practitioners from Brazil, India and China.

In each of the partner countries, a core group has been formed to steer this program, with representation from major stakeholders including banks, financial institutions, industry associations and ESCOs.

The Indian Renewable Energy Development Agency (IREDA), a Government of India undertaking, hosts the India secretariat of the project. The 3CEE project supports ESCO market development through sharing of experiences relating to projects, financial models and contracting systems. In India the project has organized discussion forums for ESCOs, banks and FIs.

The project has initiated studies to develop appraisal methodology, financial structuring for EE projects and has assisted banks in evolving new EE financing schemes and security mechanisms. Demonstration projects have been taken up in specific industry clusters. These activities have stimulated the market for energy efficiency projects in India and banks now consider energy efficiency and ESCOs as a potentially attractive line of investment.

A significant achievement for the

3CEE project is that three of the participating commercial banks have designed and launched schemes, specifically targeting EE projects. State Bank of India, Canara Bank and Union Bank of India have launched and are implementing different EE loan schemes targeting small and medium enterprises. However, such efforts by banks have to be coupled with initiatives to strengthen the ESCO business so that available funds can be tapped and projects multiplied. With the enactment of Energy Conservation Act in 2001, and the Central government's commitment to reduce energy consumption in select government buildings by 30 per cent over the next five years, ESCO business has got a boost. Overcoming conventional barriers to such business and affecting a market transformation holds the key to its further success.

With the enforcement of the Kyoto Protocol, potentially attractive business opportunities have emerged for ESCOs, where they can design and execute a number of Clean Development Mechanism (CDM) projects. To achieve international credibility in the CDM market, the Indian ESCOs and EE consultants have to gain expertise in financial engineering, excel in risk-taking and ensure timely delivery of projects. For those who persevere in this emerging competitive market the returns can be highly attractive.

The fourth Cross Exchange of ESCOs was held in Beijing earlier in the year, with experts from the three countries participating. Based on the lessons learnt from the Cross Exchange, the Indian ESCOs drafted an action plan that highlighted the following:

- To bring to the attention of Indian regulatory agencies, utility-driven demand side management programs - such as those in Brazil - could benefit Indian utilities by reducing the peak demand for electricity. Utility-ESCO partnership was a significant force in driving Brazil's EE business.
- To examine the scope for creating

an agency in India to guarantee investments in ESCO projects, similar to China National Investment & Guarantee Co Ltd. In China, the EMCo (Energy Management Co) commercial loan guarantee program was set up with GEF funding of \$22 million. Loan and guarantee program has guaranteed about 10,000 projects worth 230 billion Yuan (around \$ 30 billion) until March 2005.

■ The ESCO associations in China and Brazil are playing a major role in promoting EE business in collaboration with government agencies, utilities, and banks. Indian ESCOs are keenly interested in setting up an alliance or coalition in the near future and to work towards an association of ESCOs in the longer term to promote vibrant growth of the ESCO business.

■ Some ESCOs are willing to pool resources for a corpus fund to act as a guarantee fund by contributing up to 10 per cent of the above corpus. The ESCOs would discuss and debate these issues within the ESCO community, with banks, FIs and other EE stakeholders to evolve a consensus.

Globally, ESCOs have enjoyed significant government support. They could lobby with the Indian Government for fiscal incentives at par with other key sectors. To create a demand-pull for EE services, some fiscal supports needed are: income-tax rebates on payments made to ESCOs or EE projects; service-tax exemption on energy audit fees and on ESCO's share of savings; depreciation benefits and a five-year tax holiday for ESCO projects at par with those enjoyed by new power projects.

The next article shall focus on the various market barriers facing the ESCO business.

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