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**ECO**

**Energy Conservation and Commercialization Project**

**A Program of USAID, Ministry of Power and ICICI**

**Report On Workshop on Development of  
Indian ESCO Association  
December 2000**

**Activity 3  
Milestone 3A**

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## **Preface**

This report is part of the deliverable for Milestone 3A, Conduct 2 workshops on formation of an Indian ESCO Association, of the ECO project. The report covers work done under this Milestone from August 2000 through November 2000.

The ECO project is being implemented by Bechtel National Inc (Nexant Inc) under a USAID contract, LAG-I-00-98-0000. This contract has been issued by the USAID Mission in New Delhi as a part of the IQC (Indefinite Quantity Contract) currently in place through USAID's Global Bureau. The project contract was signed on February 29, 2000, and continues through December 2003.

## **Executive Summary**

Two one-day workshops were held in Mumbai and Delhi. The purpose of these workshops was to assemble a group consisting of representatives of interested ESCOs and other stakeholders to ascertain interest and assist in chartering a non-profit ESCO trade association. The issues discussed in these workshops were to be utilized to arrive at business plan and first year agenda of the ESCO association.

Discussions during the two workshops clearly brought out the need to have an Indian ESCO Associations to help foster an ESCO industry, facilitate energy efficiency financing and more effectively address Indian energy efficiency needs. It was further brought out that, in its initial developmental stage, an Indian ESCO Association will need strong guidance and some support. A stand alone association would be preferable, but the Indian ESCO industry is not large enough to support a separate association.

Important recommendations emerging out of these two workshops are that an Indian ESCO Association should be formed, and that the structure of the association should allow for high visibility, clear focus and flexibility to serve ESCO needs. It should preferably be a "stand alone" organization. However, if it must be housed within another structure, it must maintain a separate identity (as far as possible) if it is to be effective.

## Workshop Main Report

### 1.0 Introduction

A one-day workshop was held (at two different locations) within the context of the ECO project. The ECO project, in the main, aims to promote widespread commercialization of energy efficiency technologies and services in India by assisting stakeholders and institutions that are involved in developing, designing, constructing, implementing and operating energy efficiency projects ("Markets" component of ECO project), and by assisting government agencies and institutions in creating a supportive market environment for the commercialization of energy efficiency ("Policy" component of the ECO project).

The workshop forms an integral part of the larger activity which is under the "Markets" component of the ECO project, and which aims to provide support to energy efficiency service industry. The specific purpose of these two workshops was to assemble a group consisting of representatives of interested ESCOs and other stakeholders to ascertain interest and assist in chartering a non-profit ESCO trade association.

The workshop, entitled "Development of Indian ESCO Association" was held as scheduled in Mumbai on 3 November and in New Delhi on 6 November 2000, under joint responsibility of Nexant, KIONA International and local subcontractors Saha Sprague Limited and Conserve. Both sessions of the workshop, which had identical content, achieved or exceeded the minimum attendance levels and were very well received by participants. The workshop participant profile, structure, conclusions and recommendations, and feedback from participants are summarized below.

### 2.0 Participant Profile

The workshop held in Mumbai was attended by 27 participants, while the workshop held in New Delhi had 23 participants. This met the target class size, which was intended to have a minimum of 20 at each location. While detailed list of participants is enclosed in Section C, summary profile has been provided in the Table below.

Category	Number of Participants : Mumbai	Number of Participants : New Delhi
ESCOs	6	3
Energy Efficiency Consultants/Auditors	10	10
Industry Associations	0	1
Energy Efficiency Product Manufacturers	4	2
Institutions/NGOs	1	2
Financial Institutions	2	1
End-Users	0	2
Others	4	2
Total	27	23

Majority of the participants were either owners, CEOs or belonged to the top management team of their respective organizations. Others too were sufficiently experienced and belonged to the senior management level of their respective organizations. This participant profile helped in having lively and engaging discussions.

Marketing of the workshop was by invitation. Invitee and attendance lists from previous ECO workshop and a Council of Energy Efficiency Companies (CEEC) database provided the initial contact point. In addition, individuals and firms from industry associations, financial community, energy auditors, academic/research institutions & NGOs, and policy makers were also invited for the two workshop events. Nexant and Conserve handled workshop marketing and logistical aspects.

### **3.0 Workshop Structure & Report on the Two Workshop Sessions**

The workshop was seen as a forum to ascertain ESCO and other stakeholders interest and their views on the need for forming a non-profit association of energy service companies in India. In this sense, the workshop was mainly to be used as a forum for discussions. However in order to have meaningful and focused discussions, especially in view of the relatively recent origin of the ESCO business in India, it was felt necessary to include 2 lecture sessions to provide the necessary background information and to set the agenda for discussions. Accordingly, the workshop structure included a session by KIONA international on "Association of ESCOs in US (NAESCO), Canada (CAESCO), and Egypt (EESBA): Formation, charter, relevance and benefits to ESCO industry, activities & services, and membership profile", and a session by Saha Sprague Limited on "Need and relevance of ESCO Association for India". While the first provided the participants with an overview of the process of formation and working of ESCO associations in different parts of the world, thus providing the basis for the discussions, the second session set out the agenda for discussion.

#### ***Report on the Workshop in Mumbai***

After the conclusion of the inaugural session, Mr. James Hansen from KIONA, described the mission, member benefits and member profile for the National Association of Energy Service Companies (NAESCO), the Canadian Association of Energy Service Companies (CAESCO) and the Egyptian Energy Service Business Association (EESBA). Mr. Hansen also read an evaluation from Mr. Emad Hassan, EESBA's Executive Director, regarding the current status of EESBA and the initial difficulties in starting an association.

Dr. Shirley Hansen from KIONA, then provided a critique of these association and the lessons learned that might be germane to the discussion of developing an Indian ESCO Association. Concerns expressed included the apparent lack of industry leadership by NAESCO and the quality of its member services. She noted the inclination of CAESCO to be influenced by its largest members. She also expanded on the difficulties EESBA is having and reviewed the current state of the ESCO industry and association in Korea.

Mr. Manoj Saha from Saha Sprague Limited, then made a presentation on the need and relevance of an Indian ESCO Association, designed to provoke discussion.

In the discussion that followed, participants indicated that they felt the following services from an Indian ESCO Association would be of value. The participants indicated they believe the following services should be provided by an association

- Assistance in marketing the performance contracting concept.
- Collection of case studies and the establishment of a data base.
- Ways to encourage financial institutions to fund energy efficiency and performance contracting.
- Help in creating standard contracts and Measurement & Verification (M&V) procedures.
- Guidance and encouragement to new ESCOs.
- An accreditation program for energy managers and for energy auditors.
- Guidance and advocacy regarding legal concerns, such as tax issues.
- Strategies to encourage and influence government in India to be a driver in achieving greater energy efficiency.

There was a clear consensus in the Mumbai workshop that an association is needed. Reservation were expressed that the critical mass to support a stand alone ESCO association in India did not yet exist. The viability of forming an Indian ESCO Association housed within the CEEC was discussed. Several participants expressed concerns that CEEC did not have the needed credibility as yet to attract and support such an endeavor. On the other hand, some of the board members of the CEEC, present in the workshop, offered reassurances on behalf of CEEC.

#### ***Report on the Workshop in New Delhi***

The general presentation format offered in Mumbai was followed in New Delhi. Mr. Ahuja of CONSERVE presented Mr. Saha's remarks, as Mr. Saha was ill and unable to attend.

In the discussion that ensued, the participants identified a number of services an ESCO association might offer to its industry and to help meet Indian energy efficiency needs. The services mentioned by the participants included:

- Getting Financial Institutions (FIs) and bankers "on board" and binding FIs to a model they would accept. Special attention was paid to overcoming the obstacles presented by the size of funding needed for energy efficiency (EE) projects.
- Establishing standard basic contracts
- Creating a procedure to evaluate projects and to evaluate ESCOs.
- Providing venues for networking and dialogue – among ESCOs and with related professions.
- Creating a forum for ESCOs to be heard, especially by governments. (This topic generated considerable discussion and support.)
- Creating visibility for an ESCO industry – with firms identifiable as ESCOs, not just vendors. Specifically, helping to establish that ESCOs are more than firms selling EE product, services, and/or audits.
- Developing a data base that would provide talking points, such as market size, opportunity, and a clearly defined need for EE in India.
- Develop markets for ESCO services.

After the discussion of services an association might offer, a vote was taken as to whether an ESCO association should be created. All but one person present voted for the creation of an ESCO association. That person, by his remarks, was not opposed to the creation of an association, but rather wished to express some concerns regarding its perceived power – by member strength, intellectual property, or its balance sheet.

There was consensus that a critical mass did not yet exist in the ESCO industry to support a separate association. It was clear from the comments that a stand alone association would be preferred, but without outside support, it could not function effectively at this time. Some discussion of putting the nucleus of an ESCO association under the umbrella of another organization, such as CEEC, followed.

#### **4.0 Conclusions and Recommendations**

From the presentations and comments offered during these two workshops, the following conclusions and recommendations have been drawn.

##### ***Conclusions***

1. An Indian ESCO Associations is needed to help foster an ESCO industry, facilitate energy efficiency financing and more effectively address Indian energy efficiency needs.
2. In its initial developmental stage, an Indian ESCO Association will need strong guidance and some support. A stand alone association would be preferable, but the Indian ESCO industry is not large enough to support a separate association.
3. An association should have or provide the following services:-
  - Creating visibility for an ESCO industry – with firms identifiable as ESCOs, not just vendors. Specifically, helping to establish that ESCO's are more than firms selling just EE products, services and/or audits.
  - Developing the necessary tools (Standard contracts and M&V protocols) to help popularize the performance concept.
  - Assistance in marketing the performance contracting concept.
  - Develop programs to encourage financial institutions to fund energy efficiency and performance contracting.
  - Help energy efficiency companies graduate to full service ESCO's.
  - Provide guidance and encouragement to new ESCO's.
  - Develop an accreditation program for ESCO's
  - Provide guidance and advocacy regarding legal concerns, such as tax issues.
  - Develop strategies to encourage and influence government in India to be a driver in achieving greater energy efficiency through the EPC route.
  - Creating a procedure to evaluate projects.
  - Providing venues for networking and dialogue – among ESCOS and with related professions.

## ***Recommendations***

1. An Indian ESCO Association should be formed. The need for an organization to support and enhance the growth of an energy efficiency service industry is apparent. Although the industry is still in its infancy a well organized and active organization can speed the needed growth.
2. The structure of the association should allow for high visibility, clear focus and flexibility to serve ESCO needs.
3. The Indian ESCO Association should be a “stand alone” organization if at all possible. At this stage of the industry’s development some external support and direction would be required. If it must be housed within another structure, it must maintain a separate identity (as far as possible) if it is to be effective.
4. The business plan and first year agenda should be framed to be clearly responsive to the needs identified by those who attended the ESCO association meetings reported above.

## **5.0 Participant Feedback**

A combination of structured and open-ended questions was used to obtain feed back from workshop participants. While structured responses were sought on aspects such as, workshop content (relevance, coverage, structure), quality of resource persons/faculty, delivery methodology, venue, administrative arrangements, handout material and publicity and invitations; open ended responses were sought on reasons for attending the workshops/expectations from the workshops, extent to which expectations were fulfilled, and follow-up actions planned by the participant in the workshop focus area. A sample feedback form, along with summaries of the responses from each of the two workshops has been enclosed in Section D. The principal conclusions provided from these summaries include the following:

### ***Goals in attending the course.***

While good number of participants sought generally to ascertain how stakeholders feel about forming an ESCO association, because of the diverse backgrounds of workshop participants and because the ESCO concept is relatively new in India, many participants have mentioned that they came to the workshop to learn about the ESCO concept.

### ***Extent goals met by the course.***

Generally, the participants claimed that goals had been met, both, with respect to the question of formation of an ESCO association, as well as with respect to the knowledge about ESCOs, ESCO business and issues involved.

### ***Actions to be taken to follow-up the course.***

There was a wide variety of specific responses, including considering joining of ESCO association, taking up the matter with Institution of Engineers – propagate the concept, ask the manufacturers/consultants to join the association, volunteer on business plan and checklist “work” plan, conduct in-house meeting and decide plan of

action, and “would speak to our principals and offer them the proposal for becoming a member”, etc.

## Program

### Workshop On Development of Indian ESCO Association

Sponsored By USAID

**DATE:** 6 November 2000  
**VENUE:** India International Centre, Annex Lecture Hall, New Delhi  
**TIME:** 0930 – 1700

0930	Registration	
1000 – 1045	<b>INAUGURAL SESSION</b>	
	Welcome address	Mr. Shailabh Ahuja, CONSERVE
	About the ECO Project	Mr. Vijay M. Deshpande, Nexant Inc.
	Overview of the Workshop & Vote of Thanks	Nexant Inc.
1045 – 1100	<b>TEA BREAK</b>	
1100 – 1300	Association of ESCOs in US (NAESCO), Canada (CAESCO), and Egypt (EESBA): Formation, charter, relevance and benefits to ESCO industry, activities & services, and membership profile	KIONA, USA: Dr. Shirley Hansen and Mr. Jim Hansen
1300 – 1400	<b>LUNCH BREAK</b>	
1400 – 1515	Need and relevance of ESCO Association for India followed by discussions on issues involved in ESCO association	Mr. Manoj Saha, Director, Saha Sprague Limited, Mumbai
1515 – 1530	<b>TEA BREAK</b>	
1530 – 1630	Further discussion on Need for ESCO Association, Identification of common issues those can be taken-up by Association: Open House Discussions	KIONA, USA, Dr. Shirley Hansen and Mr. Jim Hansen & Mr. Shailabh Ahuja, CONSERVE
1630 – 1700	Concluding Remarks	Nexant, KIONA, CONSERVE

## Program

### Workshop On Development of Indian ESCO Association

Sponsored By USAID

**DATE:** 3 November 2000  
**VENUE:** Holiday Inn, Juhu, Mumbai  
**TIME:** 0930 – 1700

0930	Registration	
1000 – 1045	<b>INAUGURAL SESSION</b>	
	Welcome address	Mr. Shailabh Ahuja, CONSERVE
	About the ECO Project	Mr. Vijay M. Deshpande, Nexant Inc.
	Introduction to the Workshop & Vote of thanks	Nexant, Inc.
1045 – 1100	<b>TEA BREAK</b>	
1100 – 1300	Association of ESCOs in US (NAESCO), Canada (CAESCO), and Egypt (EESBA): Formation, charter, relevance and benefits to ESCO industry, activities & services, and membership profile	KIONA, USA: Dr. Shirley Hansen and Mr. Jim Hansen
1300 – 1400	<b>LUNCH BREAK</b>	
1400 – 1515	Need and relevance of ESCO Association for India followed by discussions on issues involved in ESCO association	Mr. Manoj Saha, Director Saha Sprague Limited, Mumbai
1515 – 1530	<b>TEA BREAK</b>	
1530 – 1630	Further discussion on Need for ESCO Association, Identification of common issues those can be taken-up by Association: Open House Discussions	KIONA, USA, Dr. Shirley Hansen and Mr. Jim Hansen & Mr. Shailabh Ahuja, CONSERVE
1630 – 1700	Concluding Remarks	Nexant, KIONA, CONSERVE

**ECO PROJECT: MILESTONE 3A**  
**Workshop on Development of Indian ESCO Association**  
**3 November 2000: Mumbai**  
**LIST OF PARTICIPANTS**

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**ECO PROJECT: MILESTONE 3A**  
**Workshop on Development of Indian ESCO Association**  
**6 November 2000: New Delhi**  
**LIST OF PARTICIPANTS**

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## Participant Feedback

A combination of structured and open-ended questions was used to obtain feedback from workshop participants. While structured responses were sought on aspects such as, workshop content (relevance, coverage, structure), quality of resources persons/faculty, delivery methodology, venue, administrative arrangements, handout material and publicity and invitations; open ended responses were sought on reasons for attending the workshops/expectations from the workshops, extent to which expectations were fulfilled, and follow-up actions planned by the participant in the workshop focus area. A sample feedback form, along with summaries of the responses from each of the two workshops has been enclosed.

### *Structured Responses:*

Following table shows participant feedback on Mumbai and New Delhi workshops to the question "What comments would you like to make about each of the following aspects of the event?". The figures indicated in the table show percentage of respondents saying 'poor' or 'satisfactory' etc.

#### **Mumbai Workshop Results:**

Description	(Percentage of Participants Saying)				
	Poor	Satisfactory	Average	Good	Excellent
Content (relevance, coverage)			31%	62%	8%
Content (Workshop Structure)		8%	8%	77%	8%
Resource person/Tutor			8%	62%	31%
Delivery, methodology			15%	77%	8%
Venue		15%	8%	46%	31%
Administrative arrangements			23%	69%	8%
Handout Material		8%	8%	67%	17%
Workshop Publicity/Invitation	8%	15%	31%	31%	15%

#### **New Delhi Workshop Results:**

Description	(Percentage of Participants Saying)				
	Poor	Satisfactory	Average	Good	Excellent
Content (relevance, coverage)		25%	8%	50%	17%
Content (Workshop Structure)		25%	17%	58%	
Resource person/Tutor	8%	17%	8%	67%	
Delivery, methodology		33%	8%	50%	8%
Venue		17%	25%	42%	17%
Administrative arrangements		17%	17%	50%	17%
Handout Material		25%	17%	42%	17%
Workshop Publicity/Invitation	8%	8%	33%	42%	8%

## Responses to Open Ended Questions

Given below are sample responses to open-ended questions.

### Mumbai Workshop Responses:

What were your goals in attending the Workshop?	To what extent do you think these goals have been met?
To understand the problems in implementing the ECO projects, and to give a feedback to Central Bank of the country	The information will be used in formulating the credit policies. To that extent the program served its purpose
To gain maximum information about ESCOs & play important role in development of this association in urban as well as rural India.	Help us to know about the features, functions etc. of the said association to a great extent
Propagate ESCOs and energy efficiency	No response
To know in detail, the ESCO activities and about the energy conservation and its awareness	No response
Being in business of electrical products, particularly capacitors which is also one of the energy saving device, my goal was to understand the ways of energy savings, its utilities & its implications	The workshop has helped to know the developments & efforts being put in energy savings & the difficulties being faced by the ESCOs etc.
Performance of similar associations abroad – analysis and data; knowing experience & views of ESCOs in India; Meeting experts in this field	Satisfied with the information provided by Dr. Shirley Hansen and Jim Hansen.
To understand what is ESCO. How it works in other countries and the difficulties faced by ESCOs in India and abroad	The goals are met 100%
To understand the needs of the ESCO from a lender's perspective	Got fair idea of the issues involved

What action do you plan to take to follow-up this event?
I will give a feedback to the Reserve Bank of India
Would speak to our principals & offer them the proposal for becoming a member
Look forward to formation of an ESCO Association in India, which is effective in projecting and bringing awareness in the field of energy conservation concepts. Necessary for our country where energy crisis is on the higher side.
Please send me more information on my email <a href="mailto:Birdsoenergy@yahoo.com">Birdsoenergy@yahoo.com</a>
Participate in propagating ESCO
To be in touch with the association
INTERACT
Take up the matter with the Institute of Engineers – propagate the concept. Ask the manufacturers/consultants to join this association
Interact with speakers, participants & organizers through e-mail
Promote the idea with CEEC to take on the representation of ESCOs in India
Plan to discuss these issues with my colleagues and other agencies involved so that we come to solution and funding these type of projects become easier

## New Delhi Workshop Responses

<b>What were your goals in attending the Workshop?</b>	<b>To what extent do you think these goals have been met?</b>
How stakeholders feel about forming an ESCO association	It has given some direction and hope to get further work done
To get more information in this field	The goals have been met
My goal was to make myself aware about the ESCO concepts and its pros & cons	I think my expectations are met to great extent. I am delighted.
We are doing turnkey implementation of projects in the field of Energy Water & Environment. We want to work as ESCO for which we want to tie up for funds & form a consortium of experts.	These goals are yet to be met
Understand the observation of other fellow industry people	Yes, partly
To deliberate on the possibilities of having a wider association of organizations working in the area of energy conservation/efficiency	The goals were met
To integrate ESCO in an association form, the possibilities of seeing if CEEC with its mandate can take over this mantle	
Learn about what an ESCO is. What is the state of preparation of an association in the Indian content? Indian experience vis-a-vis US experience	

<b>What action do you plan to take to follow-up this event?</b>
Conduct in-house meeting & decide plan of action
Volunteer on business plan and checklist "work" option
To participate actively in promoting ESCOs.
To give awareness, information to the industries and technical people
To become an active member of the ESCO association
Surf regarding ESCOs in the U.S.; read up about association in US/Canada; energy consulting – potential areas

**Eco Project: Workshops Feedback Form**

**Workshop Development of Indian ESCO Association**

**3, November, 2000**

**Holiday Inn, Mumbai**

**Dear Participant,**

We value your views on how you experienced this workshop. Please take a few minutes to complete this form.

1. What were your goals in attending the Workshop? To what extent do you think these goals have been met?

2. What action do you plan to take to follow-up this event?

3. What comments would you like to make about each of the following aspects of the event? (Please indicate your choice on the five point scale below):

	Poor	Satisfactory	Average	Good	Excellent
Content (relevance, coverage)					
Content (Workshop Structure)					
Resource person/Tutor					
Delivery, methodology					
Venue					
Administrative arrangements					
Handout Material					
Workshop Publicity/Invitation					

**Eco Project: Workshops Feedback Form**

**Workshop Development of Indian ESCO Association**

**6, November, 2000**

**India International Center, New Delhi**

**Dear Participant,**

We value your views on how you experienced this workshop. Please take a few minutes to complete this form.

1. What were your goals in attending the Workshop? To what extent do you think these goals have been met?

2. What action do you plan to take to follow-up this event?

3. What comments would you like to make about each of the following aspects of the event? (Please indicate your choice on the five point scale below):

	Poor	Satisfactory	Average	Good	Excellent
Content (relevance, coverage)					
Content (Workshop Structure)					
Resource person/Tutor					
Delivery, methodology					
Venue					
Administrative arrangements					
Handout Material					
Workshop Publicity/Invitation					

# **DEVELOPMENT OF AN ESCO ASSOCIATION**

**A Training Program  
Organized by  
Nexant Inc. &  
CONSERVE**



## **A LOOK AT ESCO ASSOCIATIONS**

**Prepared and Presented by  
KIONA INTERNATIONAL  
Shirley J. Hansen, Ph.D. and  
James C. Hansen, Engr.**

**A USAID-DELHI PROGRAM**

## A LOOK AT ASSOCIATIONS

NATIONAL ASSOCIATION OF ENERGY SERVICE COMPANIES, USA

"The United Voice of Industry"

**Membership:**

About 50 Energy Service Companies  
More than 100 Associate and Affiliate members

**Mission:**

"The mission of the National Association of Energy Service Companies (NAESCO) is to promote the delivery by ESCOs of comprehensive energy services, including energy efficiency, to maximize customer benefits and environmental sustainability."

KIONA INTERNATIONAL

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## A LOOK AT ASSOCIATIONS

NATIONAL ASSOCIATION OF ENERGY SERVICE COMPANIES, USA

**Who belongs to NAESCO?**

- ESCOs
- Utilities
- Energy equipment manufacturers, suppliers and distributors
- Electric power and gas marketers
- Engineering and design companies
- Lawyers and consultants
- Financial houses
- Allied trade associations
- Public sector entities

KIONA INTERNATIONAL

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## A LOOK AT ASSOCIATIONS

NATIONAL ASSOCIATION OF ENERGY SERVICE COMPANIES, USA

**Member Benefits:**

- Energy Efficiency Journal
- NAESCO Online
- Networking
- Business Partnerships
- Representation and Advocacy
- Member Discounts
- International Opportunities
- Accreditation

KIONA INTERNATIONAL

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## A LOOK AT ASSOCIATIONS

NATIONAL ASSOCIATION OF ENERGY SERVICE COMPANIES, USA

**Accreditation:**

Full Service ESCOs  
Lighting Service Companies

**Ethical Guidelines:**

Full qualified engineering staff  
Qualified service staff available  
Timely installation and operation  
High quality standards  
No misleading or exaggerated claims  
Offer to provide service for installed equipment  
Utilize legal financing and true equipment value  
Represent truthfully... qualifications and capabilities

KIONA INTERNATIONAL

## A LOOK AT ASSOCIATIONS

CANADIAN ASSOCIATION OF ENERGY SERVICE COMPANIES

**Mission Statement:**

Grow the market for accredited ESCOs  
Reduce the cost of doing business by agreement on industry standards  
Through communication, influence the market to understand and value performance contracting  
Establish competitive advantages for accredited ESCOs  
Provide information on trends in the industry  
Deliver, demonstrate and measure benefits to members  
Achieve financial self sustainability  
Create and deliver services to members and non-members

KIONA INTERNATIONAL

## A LOOK AT ASSOCIATIONS

CANADIAN ASSOCIATION OF ENERGY SERVICE COMPANIES

**About 50 member organizations:**

Full ESCOs  
Associate ESCOs (smaller ESCOs)  
Utilities  
Government organizations  
Corporations (suppliers)  
Private Members

KIONA INTERNATIONAL

## A LOOK AT ASSOCIATIONS

CANADIAN ASSOCIATION OF ENERGY SERVICE COMPANIES

### *Accreditation*

Meet CAESCO definition of an ESCO

Demonstrate four capabilities

Auditing ability

Turnkey service with qualified people

Must offer performance guarantees

Must offer to finance or arrange finance

KIONA INTERNATIONAL

## A LOOK AT ASSOCIATIONS

CANADIAN ASSOCIATION OF ENERGY SERVICE COMPANIES

### *Code of Ethics for ESCOs*

Strive to satisfy customers

Provide realistic energy cost savings estimates

Maintain, or have access to, qualified staff

Act as would a prudent building owner would re:

codes, standards, regulations and safety

Seek the most cost effective design and

implementation strategies

Maintain financial access to meet obligations

Raise the profile, value, credibility of the industry

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## A LOOK AT ASSOCIATIONS

EGYPTIAN ENERGY SERVICE BUSINESS ASSOCIATION

"The home and voice of Egyptian Energy Service providers."

### *EESBA provides:*

A base to support the business interests of EESBA members

A vehicle to increase awareness and promote energy efficiency applications

A forum to advocate policy supporting energy efficiency business

An arena for networking and business development

An information link to international sources and business allies

KIONA INTERNATIONAL

## A LOOK AT ASSOCIATIONS

### ESCO ASSOCIATION CONTACTS

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NAESCO web site: [www.NAESCO.org](http://www.NAESCO.org)

CAESCO  
55 St. Clair Ave. W., Suite 225  
Toronto, ON M4V 2Y7 Canada  
Mr. Mark Anshan, Exec. Director  
e-mail: [manshan@istar.ca](mailto:manshan@istar.ca)  
CAESCO web site: [www.ardron.co/CAESCO](http://www.ardron.co/CAESCO)

EESBA  
Emad Hassan, Exec. Director  
e-mail: [eahassan@nexant.com](mailto:eahassan@nexant.com)  
EESBA web site: [www.eesba.org](http://www.eesba.org)

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## A LOOK AT ASSOCIATIONS

### And finally..... The keys to success

An Executive Director with:

- Time
- Dedication
- Support

Communication

- At least two ways

Service

- Provide members with services they want

Participation

- Keep your members involved
- Identify new member opportunities

KIONA INTERNATIONAL

# NAESCO ONLINE™

NATIONAL ASSOCIATION OF ENERGY SERVICE COMPANIES

1615 M Street, NW, Suite 800,  
Washington, DC 20036

202/822-0950  
FAX: 202/822-0955

The World Wide Web resource for energy service providers and consumers.

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NAESCO ONLINE

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**WHAT IS AN ESCO?**

**WHAT IS NAESCO?**

**NAESCO ACCREDITATION**

**ETHICAL GUIDELINES**

**MEMBERSHIP BENEFITS**

**PEOPLE ARE TALKING ABOUT NAESCO...**

**APPLICATION FOR MEMBERSHIP**

**ADVERTISING OPPORTUNITIES**

**VENDOR SHOWCASE INFORMATION**

**2000 OFFICERS AND BOARD OF DIRECTORS**

**NAESCO ACCREDITED COMPANIES**

**NAESCO STAFF**

**WHAT IS AN ESCO?**

An ESCO, or Energy Service Company, is a business that develops, installs, and finances projects designed to improve the energy efficiency and maintenance costs for facilities over a seven to 10 year time period. ESCOs generally act as project developers for a wide range of tasks and assume the technical and performance risk associated with the project. Typically, they offer the following services:

- develop, design, and finance energy efficiency projects;
- install and maintain the energy efficient equipment involved;
- measure, monitor, and verify the project's energy savings; and
- assume the risk that the project will save the amount of energy guaranteed.

These services are bundled into the project's cost and are repaid through the dollar savings generated.

ESCO projects are comprehensive, which means that the ESCO employs a wide array of cost-effective measures to achieve energy savings. These measures often include the following: high efficiency lighting, high efficiency heating and air conditioning, efficient motors and variable speed drives, and centralized energy management systems.

What sets ESCOs apart from other firms that offer energy efficiency, like consulting firms and equipment contractors, is the concept of performance-based contracting. When an ESCO undertakes a project, the company's compensation, and often the project's financing, are directly linked to the amount of energy that is actually saved.

Typically, the comprehensive energy efficiency retrofits inherent in ESCO projects require a large initial capital investment and offer a relatively long payback period. The customer's debt payments are tied to the energy savings offered under the project so that the customer pays for the capital improvement with the money that comes out of the difference between pre-installation and post-installation energy use and other costs. For this reason, ESCOs have led the effort to verify, rather than estimate energy savings. One of the most accurate means of measurement is the relatively new practice of metering, which is direct tracking of energy savings according to sanctioned engineering protocols.

Most performance-based energy efficiency projects include the maintenance of all or some portion of the new high-energy equipment over the life of the contract. The cost of this ongoing maintenance is folded into the overall cost of the project. Therefore, during the life of the contract, the customer receives the benefit of reduced maintenance costs, in addition to reduced energy costs. As an additional service in most contracts, the ESCO provides any specialized training needed so that the customer's maintenance staff can take over at the end of the contract period.

Another critical component of every energy efficiency projects is the education of customers about their own energy use patterns in order to develop an "energy efficiency partnership" between the ESCO and the customer. A primary purpose of this partnership is to help the customer understand how their energy use is related to the business that they conduct.

Included in the ancillary services provided in a typical performance-based energy efficiency contract are the removal and disposal of hazardous materials from the customer's facility. When, for example, existing fluorescent lighting equipment, ballasts that contain PCBs, and fluorescent light tubes that contain traces of mercury are replaced, the old equipment must be disposed of as hazardous waste. Upgrades to heating, air conditioning, and ventilation systems may involve the removal of asbestos and would also be properly disposed of by the ESCO.

In addition to the economic benefits realized by ESCO customers through energy and maintenance cost savings, this booming industry has had a profound effect on the U.S. economy. New jobs have been created, not only within the ESCOs, but through the use of contractors and through the many firms involved directly and indirectly in supporting energy efficiency projects. Since approximately one third of the money invested in ESCO projects is applied to labor costs, out of the estimated \$2 billion of projects installed to date, approximately \$700 million has gone directly

for labor employment.

Historically, the energy service industry is relatively young. Most U.S. ESCOs place the industry's origins in the late 1970s and early 1980s when energy prices rose dramatically following the 1973 Arab oil embargo and the Iranian Revolution in 1979. These events created the opportunity to make a business out of reducing customers' growing energy costs. The future for ESCOs and for their customers is bright as there is an increasingly global need to implement energy efficiency projects on a widespread basis.

[Back to Top](#)

## WHAT IS NAESCO?

**NAESCO: The United Voice of the Industry**

**Who Belongs to NAESCO?**

**What Kind of Services do NAESCO Members Provide?**

**What Kind of Products do NAESCO Members Provide?**

### **NAESCO: The United Voice of the Industry**

#### **In the State Legislature and Before State Regulatory Bodies**

NAESCO is a leader in devising innovative policies which reflect a changing marketplace. NAESCO is heard in state regulatory proceedings and by state legislators as critical decisions about deregulation are being made. NAESCO's counsel is provided as decisions are being made by state agencies about the deployment of third parties, like the members of NAESCO, to provide energy efficiency products and services to public facilities like schools, colleges, universities, hospitals, correctional facilities, state agencies, and other state or local institutions.

#### **On Capitol Hill and at Federal Agencies**

NAESCO represents the energy services industry in the halls of Congress as federal restructuring legislation is being considered and decisions about federal procurement streamlining are made. At the Departments of Energy and Defense, the Environmental Protection Agency, and the General Services Administration, NAESCO provides input about industry trends and practices and seeks to educate policy makers about the full range of industry capabilities.

#### **In the International Marketplace**

NAESCO is a leader in helping to open new markets for energy services internationally and bringing together international energy service providers.

#### **Ensuring Quality Through Accreditation**

NAESCO sponsors a rigorous accreditation program for ESCOs and certain specialized project developers to recognize capability and experience.

#### **The Industry's Advocate**

NAESCO fosters working partnerships with generation and distribution companies and promotes the benefits of energy efficiency, including distributed resources, in a changing market. This commitment ensures that customers and ratepayers can make optimal supply and demand side choices. NAESCO also works with vendors to assure the quality of services and products.

Recognizing that energy efficiency is a persistent resource, NAESCO develops policies and programs that link persistency to measurement requirements, reward the delivery of actual savings, and ensure that customers have freedom to choose among all energy service providers. On behalf of the industry, NAESCO educates customers about industry successes and the breadth of industry experience, producing reports, case studies, data surveys, and articles for the general media to promote industry trends and practices.

### **Who Belongs to NAESCO?**

- ESCOs
- Utility Affiliates
- Utilities
- Energy Equipment Manufacturers, Suppliers, and Distributors
- Electric Power and Gas Marketers
- Engineering and Design Companies
- Lawyers and Consultants
- Allied Trade Associations
- Financial Institutions
- International Entities
- Public Sector Entities

### **What Kind of Services do NAESCO Members Provide?**

- Building Certification
- Commodity Risk Management
- Commodity Procurement
- District Heating and Cooling
- Electric Power and Gas Marketing and Brokering
- Energy Consumption Reduction
- Financing
- Hazardous Waste Disposal
- Indoor Air Quality Assessment and Amelioration
- Installation

- Measurement and Verification of Energy Consumption and Efficiency Measures
- New Energy Supply
- Operations and Maintenance
- Power Quality Assurance
- Total Facility and Asset Management
- Training and Consulting
- Water and Sewage Management

**What Kind of Products do NAESCO Members Provide?**

- Air Distribution
- Boilers
- Chillers
- Cogeneration
- Control Systems
- Distributed Generation Technologies
- Distribution Transformers
- Energy Management Systems
- HVAC Products and Services
- Lighting Controls
- Lighting and Electronic Ballasts
- Measurement and Monitoring
- Motors
- Power Monitoring
- Power Quality Products
- Recycling
- Reflectors
- Software Services
- Thermal Storage Systems
- Variable Speed Drives

- Water Conservation Programs
- Windows, Doors, and Insulation

#### Membership Benefits

#### Online Application for Membership

#### Please send Membership Information



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## **NAESCO ACCREDITATION**

### **The Accreditation Process**

Companies seeking NAESCO-Accredited status must apply to a committee of industry experts who are unaffiliated with any particular ESCO or lighting service company, and undergo a rigorous examination of their core competencies and business practices. The committee carefully reviews the detailed documentation submitted and consults with selected customer references.

The committee looks at criteria including the following: the precise nature of the applicant's business; the range of measures and services offered to customers; the availability of a performance-based project approach; ethical business practice commitment; project engineering and design, financing, project management, operations, and maintenance capabilities; and the capability of verifying and monitoring energy cost savings.

### **Accreditation Categories**

For purposes of accreditation, NAESCO recognizes two categories of company: 1. the full-service Energy Service Company (ESCO), and 2. companies that specialize in energy efficient lighting projects. In this category, applicants may seek accreditation as a Lighting Service Company.

### **Criteria for ESCO Accreditation**

In earning accreditation, an ESCO has been determined to possess the following: the technical and managerial competence to develop comprehensive energy efficiency projects, defined to include lighting measures; efficient motors and drives; and measures involving heating, ventilation, and air conditioning systems; the technical and managerial competence to provide a full range of energy services, defined to include conducting energy audits; providing or arranging for project financing; design engineering; providing operations and maintenance services; and verifying energy savings according to accepted industry practice; and the regular business practice of developing performance-based projects, defined to mean projects for which the developer's compensation is contingent upon the projects realizing verified cost savings.

### **Criteria for Lighting Service Company Accreditation**

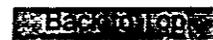
A Lighting Service Company is identical to an ESCO except for the following two

characteristics: a Lighting Service Company specializes in, and possesses the technical and managerial competence to develop energy efficiency projects based principally on lighting measures; and its customer agreements, though performance-based, tend to have shorter terms than those used by ESCOs.

### **What NAESCO Accreditation is Not**

There are certain things that accreditation does not mean. It does not mean that NAESCO certifies either expressly or by implication: that any accredited company's customer(s) will, in fact, realize cost savings by that company; or that any accredited company has any particular level of financial strength or viability.

[NAESCO Accredited Companies](#)



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## **ETHICAL GUIDELINES**

Each ESCO member of NAESCO pledges to do the following:

1. Maintain a qualified staff of energy engineers or have such engineers available full-time and use only such engineers in order to ensure qualified engineering evaluation, design, and implementation of all projects undertaken.
2. Maintain a qualified staff of service personnel or use only qualified outside service personnel to ensure effective operation and maintenance of equipment installed by the ESCO.
3. Install and make operational all equipment promised under an energy services agreement within a reasonable time after the agreement has been signed and all contractual contingencies have been satisfied.
4. Maintain high quality standards in both products and service.
5. Make no misleading or exaggerated claims as to the level of energy costs savings which can be expected from the services provided by the ESCO.
6. Offer to provide regular service for equipment installed by the company and not abandon equipment placed with the user under an energy services agreement or fail to provide other services promised under the agreement.
7. Utilize only those financing arrangements which comply with applicable laws and regulations and which accurately value equipment, energy savings, and other benefits.
8. Represent truthfully and clearly the company's qualifications and capabilities to perform services and provide financing



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## **MEMBERSHIP BENEFITS**

### **The Privileges of Membership in NAESCO**

As a NAESCO member, you will receive the following benefits:

- **The Energy Efficiency Journal.** Examines the trends and events that affect the energy services industry. This quarterly magazine regularly features legislative and regulatory updates, industry and product information, and guest commentaries on market issues and challenges.
- **NAESCO Online.** Access members-only areas of NAESCO's web site, including current Requests for Proposals and the Membership Directory. Internet users can obtain information about member companies using a search feature organized by products and services. Members have the option of a hyperlink to their organization's web site or company profile.
- **Networking.** Interact with the leaders of the energy services industry.
- **Business Partnerships.** Reach potential customers through your listing on the NAESCO web site and in the ESCO and Vendor Bidder's Lists; participation in NAESCO conferences, seminars, and working groups; advertisements in NAESCO publications; and features in industry trade press which highlight NAESCO and its members.
- **Representation and Advocacy.** Gain representation on critical legislative and regulatory issues in federal and state forums. Receive special industry reports and bulletins covering new or pending legislation, regulation, and market developments.
- **Member Discounts.** Qualify for reduced rates on registration fees and exhibit space at NAESCO conferences as well as savings on advertising rates and publications.
- **International Opportunities.** Participate in international trade missions and in NAESCO's export trading company to pursue international energy efficiency projects. International members may participate in forums with U.S. counterparts at meetings and conferences or through the web site.
- **Accreditation.** NAESCO members have the opportunity to apply for NAESCO-sponsored accreditation of ESCOs and certain specialized companies.

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## Canadian Association of Energy Service Companies

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The Canadian Association of Energy Service Companies (CAESCO) is the primary organization representing the energy performance contracting industry in Canada. Our mission is to support the profitable growth of members through education of the market, industry promotion, self-regulation and industry standards.

CAESCO has approximately 50 member organizations with over 100 individual members including Energy Service Companies (ESCOs), suppliers and distributors of energy efficient products and systems, utility companies, governments, lawyers and consultants.

CAESCO accredits ESCO members and Supplier Members must also comply with a Code of Ethics. With funding from Natural Resources Canada, CAESCO conducts an annual review of market activity. Since 1991, **sales have been growing at over 50% per annum** and in 1995 were recorded at over \$278 million.

CAESCO produces publications and videos. It also develops workshops, conferences and seminars. The Association meets quarterly, with committees such as Customer Programs, Market Development and Suppliers continuously active. Regional groups have been formed in Vancouver, BC, Calgary and Edmonton, AB, Ottawa, ON, and Halifax, NS, to represent the interest of Atlantic Canada.



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Tel 416.969.9208 Fax 416.969.9225

Last Updated: 03.12.99



## Canadian Association of Energy Service Companies

### Mission Statement

CAESCO's mandate is to:

**Grow the market** for accredited ESCOs through collaboration and partnerships with our sponsors and stakeholders

**Provide information** on trends in the energy services industry including an Annual Report

**Reduce the costs** of doing business by agreeing on industry standards

**Deliver, demonstrate and measure** benefits to members

**Through effective communication, condition and** strongly influence the market to optimize the understanding of the processes of performance contracting and the value delivered to customers and the community

**Achieve** a large component of financial self-sustainability from revenues linked to the growth in industry orders

**Establish competitive advantages** for accredited ESCO members through accountability for high professional standards and reducing the customer's transactional costs

**Create and deliver** products and services to members and non-members that contribute to market growth and provide an income to CAESCO



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Last Updated: 03.12.99



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## Canadian Association of Energy Service Companies

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### ESCO Info

In Canada, energy service companies (ESCOs) are supplying performance contracting to health care facilities, office buildings, universities, schools, apartments, condominiums, hotels, buildings owned by municipal, provincial and federal governments, as well as to manufacturing and processing facilities.

Building owners and operators recognize that performance contracting is convenient, rapid and a low risk way to improve operating efficiency. Performance contracting has grown in recent years by 30 per cent per annum to become a \$278 million a year business in 1995.

ESCOs design and implement programs that permanently reduce utility and operating costs in existing buildings. They are experts in the application of the principles of energy management, environmental control, project construction and management, and they can arrange project financing custom designed to client needs. ESCOs are turnkey contractors with total responsibility for analysis, design, construction, commissioning, performance monitoring and operator training. Each project carries a performance guarantee, transferring the financial risk of the project to the ESCO.

Please see [what ESCOs can do for you!](#)



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Tel 416.969.9208 Fax 416.969.9225  
Last Updated: 03.12.99



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## Canadian Association of Energy Service Companies

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### Members

There are six categories of CAESCO members:

#### Full ESCO Member:

- Meets the accreditation criteria as set out by the CAESCO Accreditation and Disciplinary Committee.
- Up to 12 members can be elected to the Board of Directors.

#### Associate ESCO Member:

- Firms with performance contracting sales or capital investments under \$2 million but otherwise meet the accreditation criteria.
- Firms that do not yet meet the Accreditation Criteria (accreditation pending).
- Four members can be elected to the Board of Directors. If less than twelve Full ESCO members are available to serve as directors, then the balance of directors shall be elected from the Associate ESCO category.

#### Utility Member:

- A gas or electric utility, or regulatory body.
- Automatic eligibility to become a non-voting member on the Board of Directors.

#### Government Member:

- A representative from a federal, provincial or municipal government department.
- Not eligible to serve as member of the Board of Directors.

#### Corporate Member:

- A company that provides services, supplies equipment to ESCOs or customers created by the ESCO industry.
- Up to 2 members can be voted to the Board of Directors.

#### Private Member:

- An individual who provides services to, or has a general interest in the ESCO industry.
- Up to 2 members can be voted to the Board of Directors.



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## Canadian Association of Energy Service Companies

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### Accreditation

**To protect the public, customers and all CAESCO members from unqualified energy service companies, CAESCO has established an accreditation process. Only energy service companies (ESCOs) which have demonstrated their capabilities and been accredited are entitled to the designation, 'ESCO member of CAESCO.'**

The requirements for accreditation are an important test of CAESCO's ability to regulate its membership and ensure a high quality of energy performance contracting services to the public.

To be considered for accreditation, a firm must meet CAESCO's official definition of an Energy Service Company (ESCO).



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Last Updated: 03.12.99



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## Canadian Association of Energy Service Companies

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### ESCO: Definition

*An energy service company is an organization that contracts with energy users, their agents, and utility companies, to evaluate, design and install capital and operating improvements to an existing building facility or industrial process, to reduce energy and operating costs over a contract period of typically four to ten years. ESCOs have the capability to finance all project costs and receive payment exclusively from the resultant energy and operating cost savings to recover their costs and profits. ESCOs are paid on performance and provide project performance guarantees. In addition, they monitor savings performance throughout the contract period and provide training to building operators.*

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## Canadian Association of Energy Service Companies

### Accreditation Requirements

#### 1 Standards

CAESCO's by-laws state that to become and remain an ESCO member of CAESCO, a company must meet the definition of an energy service company, be accredited, and conduct itself in accordance with the CAESCO Code of Ethics. The by-laws also provide for the establishment of an Accreditation and Disciplinary Committee consisting of four members including two Private Members / Board Members and two other members of the Association who are utility, government or private members.

#### 2 Capabilities

In order to qualify for accreditation as an ESCO member of CAESCO, a company must demonstrate that it has four distinct capabilities. It must derive these capabilities from its own employees, or by way of arrangements such as joint venture or consulting contracts with other firms.

• The company must have a comprehensive energy audit capability. It must be able to design and prescribe energy savings measures for the facility or the process as a whole, or at least for a significant part thereof.

• The company must offer a turnkey service to clients, including energy audit and retrofit concept development, engineering design, construction or project management, and ongoing energy management and training. It must have personnel qualified to sign drawings and where appropriate, verify compliance with codes in the jurisdiction where the project is being carried out.

• The company must offer a performance guarantee and receive its compensation from the energy savings it helps produce in clients' facilities.

• The company must offer to finance or arrange financing for the implementation of the retrofit project.

#### 3 Written Submission

ESCOs applying for CAESCO accreditation must document the above capabilities in detailed written form, and should be prepared to supply examples of its work, including energy audits, project proposals, performance contracts, records of completed jobs, and references from clients, as requested by the Accreditation Committee.

ESCOs who have been included in the Federal Building Initiative (FBI) Pre-qualification List, may use as part of their submission the same information, updated where necessary.

The accreditation package must also include resumes of key personnel, CAESCO Code of Ethics signed by a senior officer, and a confirmation of adequate errors and omissions and general liability insurance.

All information will be treated by the Committee as confidential, and returned to the applicants when the accreditation process is complete.



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## Canadian Association of Energy Service Companies

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### ESCO Code of Ethics

As a condition of membership, each ESCO member of CAESCO pledges the following:

- 1 Strive to completely satisfy customers' needs for energy efficiency, energy conservation and operational efficiency in buildings, so as to enhance a facility's long term financial, environmental and energy performance. Retain ultimate responsibility and accountability for project performance.
- 2 Provide realistic and attainable energy cost savings estimates, forecasts, and implementation costs.
- 3 Maintain, or have adequate access to, qualified staff in mechanical and electrical engineering, construction and project management, and post-construction inspection, monitoring, training, service and maintenance.
- 4 Act throughout a project as would a prudent building owner with respect to codes, standards, regulations, repairs, emergency situations so as to protect the interests of the customer. Provide an objective, professional source of advice to customers with respect to their building needs.
- 5 Strive to seek the most cost effective engineering, design, and implementation solutions seeking every opportunity for capital investment to be paid out of energy cost savings.
- 6 Maintain adequate access to project and working capital to meet the continuing obligations imposed by guaranteeing project investment repayment from energy and operating cost savings.
- 7 Raise the profile, value and credibility of the energy services industry in Canada when in competition and seeking business in the market place.

---

### Supplier Code of Ethics

As a condition of membership, each supplier member of CAESCO pledges the following:

- 1 Strive to completely satisfy the ESCO's needs for energy efficiency, energy and water conservation and operational efficiency in buildings, so as to enhance a facility's long term environmental and energy performance.
- 2 To honour all project warranties.
- 3 Retain ultimate responsibility and accountability for products and services provided to the ESCO and final user.
- 4 Provide accurate product performance information substantiated by documentation from recognized authorities and / or according to accepted industry practices.
- 5 Maintain, or have adequate access to, qualified technical staff in mechanical and electrical disciplines as applicable.
- 6 Provide project support with respect to codes, standards, regulations, repairs, and emergency situations so as to protect and advance the interests of the customer.
- 7 Raise the profile, value and credibility of the energy services industry in Canada when in competition and seeking business in the market place.



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Member Companies | EESBA'S Affiliates | Join EESBA | EESBA'S Library | Jobs |

## What is EESBA ?

EESBA is the Egyptian Energy Service Business Association, the home and voice of Egyptian energy service providers. It is a non-government association registered under Law number 153 of 1999 for non-government organizations and associations in Egypt. EESBA's membership includes local Energy Service Companies (ESCOs), energy efficiency equipment vendors, service providers, engineering consultants, financial institutions, business consulting companies, and legal firms associated with the energy service business.

As a non-government association, EESBA participates in local policy development and advocacy for energy efficiency providing its members a forum to interact with policy makers and other interested parties. It also functions as a platform for networking and business development opportunities. EESBA also serves as a vehicle to increase market awareness and to stimulate market interest by delivering presentations to target business groups and government leaders at exhibitions and conferences. In summary, EESBA provides:

- \* A base to support the business interest of providers offering energy efficiency products and services to the Egyptian market.
- \* A vehicle to increase awareness and promote energy efficiency applications.
- \* A forum to advocate policy supporting the energy efficiency business
- \* An arena for networking and business development.
- \* An information link to international sources and business allies.

## News

- EESBA'S News
- Market News
- EE COUNCIL
- MMEE PROJECT
- NEES PROJECT
- UNDP/GEF

## Calendar of Events

What is EESBA ?

EESBA's Mission

What is an ESCO ?

Energy Service  
Performance Contracts

Board of Directors  
& Officers

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## EESBA's Mission

The Egyptian Energy Service Business Association (EESBA) represents the business interests of private companies offering products and services to the energy efficiency market in Egypt. It is established to function as a forum to facilitate information exchange, foster working relationships between members, organize capacity building activities, and develop alliances with international relevant businesses. EESBA will address current market barriers facing the energy business community and work towards solutions to improve the use of Egypt's natural energy resources.

What is EESBA ?

EESBA's Mission

What is an ESCO ?

Energy Service  
Performance Contracts

Board of Directors  
& Officers

### News

- EESBA'S News
- Market News  
EE COUNCIL  
MMEE PROJECT  
NEES PROJECT  
UNDP/GEF

### Calendar of Events



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## What is an ESCO ?

An ESCO is a private Energy Service Company that provides turnkey energy management services to commercial, industrial, and residential clients on a risk-sharing basis. ESCOs typically engage in medium to long-term contracts to develop, implement, operate, maintain, and, in some cases, finance energy efficiency improvements in clients' facilities.

ESCO services begin with the identification of potential energy saving opportunities that can be paid for from future energy savings. Follow up activities such as design, engineering, purchasing of equipment, installation, start-up testing, training, and performance guarantee are also part of ESCOs turnkey services. Follow up activities such as design, engineering, purchasing of equipment, installation, start-up testing, training, and performance guarantee are also part of ESCOs turnkey services.

ESCOs use customized implementation approaches for their clients to match their specific needs. While their approach to implementing projects vary in risk and profit sharing, ESCOs revenues are usually tied to the performance of the projects they implement. For a defined contract period known as the performance period, ESCOs assume performance and or credit risks. The performance risk is due to linking their revenue to the project performance, and the credit risk is assumed when providing project finance. To document the terms and conditions of how the project performance is tied to their compensation, ESCOs usually use "Performance Contracts" with their clients.

### News

- EESBA'S News
- Market News
- EE COUNCIL
- NMEE PROJECT
- NEES PROJECT
- UNDP/GEF

### Calendar of Events



What is EESBA ?

EESBA's Mission

What is an ESCO ?

Energy Service Performance Contracts

Board of Directors & Officers

46

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# Energy Service Performance Contracts **News**

ESCOs use Performance Contracts to document project implementation, risk sharing parameters, and compensation in addition to typical contractual terms, Performance Contracts document measurement methods of establishing baseline energy consumption and future energy savings, performance guarantee, operating conditions, payments, schedule, and ongoing maintenance services.

- EESBA'S News
- Market News
- EE COUNCIL
- HMEI PROJECT
- NEES PROJECT
- UNDP/GEF

## Calendar of Events



What is EESBA ?

EESBA's Mission

What is an ESCO ?

Energy Service Performance Contracts

Board of Directors & Officers

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## Board of Directors & Officers

### News

- EESBA'S News
- Market News
  - EE COUNCIL
  - MMEE PROJECT
  - NEES PROJECT
  - UNDP/GEF

### Calendar of Events



### 2000 Board of Directors

What is EESBA ?

EESBA's Mission

What is an ESCO ?

Energy Service  
Performance Contracts

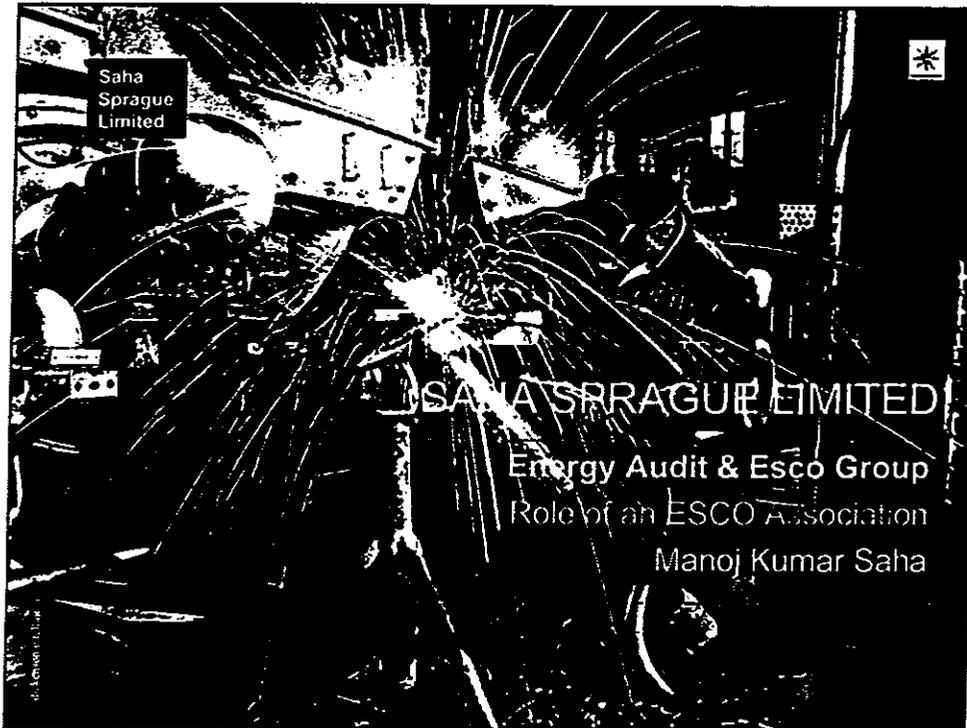
Board of Directors  
& Officers

EESBA's 1999 Board of Directors has resigned to comply with the new regulations of Law 153, and an election of the new board is undergoing. The new board will consist of 11 members elected from the full member companies. We estimate that the new board will be in place by November 2000.

The Officers positions will include:

- President
- Vice President/Secretary
- Treasurer
- Executive Director

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## Introduction to SSL

Saha Sprague Limited was founded in 1995 as a limited liability joint venture company in India, owned by Commonwealth Sprague Capacitor Inc. (USA), and Energy Venture Capital Limited (India).

The Company was founded on the principle of meeting the evolving needs of commercial and industrial customers in India for solution to power quality and energy saving issues, and on the principle of creating value for its shareholders by combining leading technology and know-how with intimate market knowledge and presence.

Saha  
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Limited

2



## Management & Partners

Manoj Saha (Executive Director)  
Daniel J. Cavicchio, Jr. (Executive Director)  
George M. Baker (Executive Director)  
R. K. Iyer (Vice President)  
D. V. Shah (GM)  
B. Dixit (GM)  
S. Prabhu (Chief of Finance)

Senior Qualified Engineers: 7  
Junior Engineers: 20  
Total Strength: 43  
Presence: Mumbai, Bangalore, Ahmedabad, Chennai

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Financial Advisors:  
• Infrastructure Leasing & Financial Services Limited  
• Arthur Andersen (Auditors)



## Major Projects Handled by SSL

- ✓ DSM for AECo.
- ✓ Auditors for BSES and BEST for T&D Loss Reduction
- ✓ Power study on high freq spinning M/c for NRC Limited - 15% Energy Saving Achieved
- ✓ Failure Analysis and solutions for Reliance Petroleum Ltd, Jamnagar
- ✓ Flicker Analysis and Harmonic Filtering for Tuder India Ltd
- ✓ Harmonic Filter Installed for Dwarekesh Sugar Industries Ltd.
- ✓ Energy Audit and Harmonic Filtering for Reiter LMW Machinery Ltd.
- ✓ Flicker mitigation and Harmonic Filter for Barge Mounted Unloaders in ISPAT Industries, Mumbai

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Some ESCO projects presently Undertaken by SSL

- ✓ Sterlite Industries Ltd, Aurangabad
- ✓ BILT Chemicals Ltd, Karwar
- ✓ Wheel & Axle Plant, Bangalore
- ✓ Energy Saving Project for Vidhan Soudha Building, Bangalore
- ✓ Lighting retrofit and Automatic Var management for Manipal Centre, Bangalore

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5



## What the heck does "ESCO" Mean?

- ✓ We've read about it...
- ✓ We've heard many lectures on it...
- ✓ We've theorized it...
- ✓ We've understood it...
  - But do we practice it?
  - Do we need to practice it?
  - Do we need to be organized?
  - What are the realities?

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## Do we need an Association?

Depends on different Perspectives

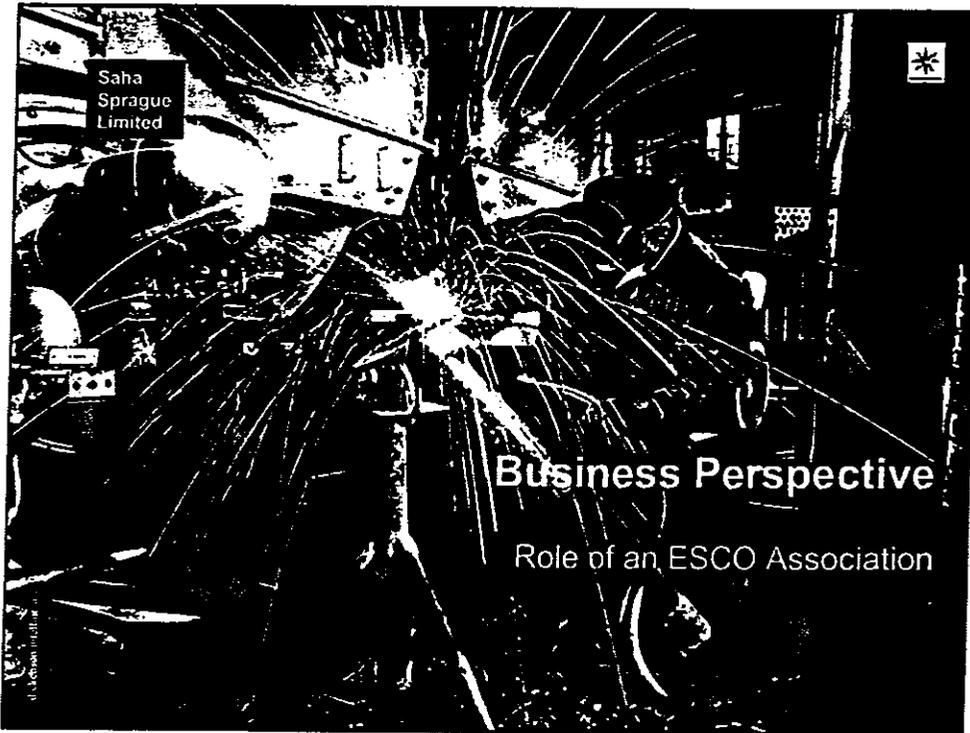
- ✓ ESCO's Business Perspective
- ✓ Beneficiary's Perspective
- ✓ Financiers Perspective
- ✓ Policy makers' Perspectives

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## Business Perspective

Role of an ESCO Association

### Markets: India vs. USA

#### INDIA

- Power Deficient
- 45% T&D Losses
- Low R&D
- Low Productivity
- Industry Sector Large
- Service Sector Small
- Service = Hundreds
- Software Sector
- Overall Inefficient and outdated infrastructure

#### USA

- Power Sufficient
- 7% T&D Losses
- High R&D
- High Productivity
- Industry Sector Large
- Service Sector Large
- Service = Thousands
- Software Sector
- Overall Efficient and advanced infrastructure

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## Markets

- ✓ Today India is Industrial and Utility Centric
  - USA is Service and Residential Centric where building facility management is big
- ✓ In a long time, there will be no difference
  - This major difference must be kept in mind when extrapolating the USA experience into India's current scenario

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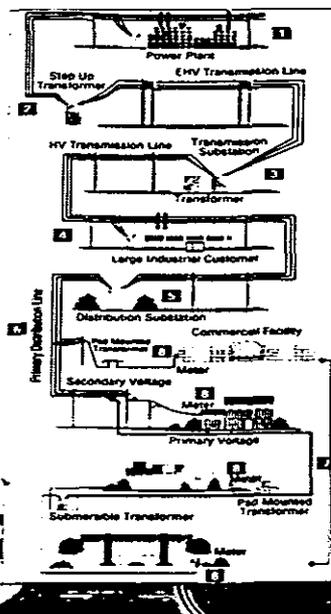
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## Utility Centric: T&D Loss Reduction

### SSL Experience: T&D Solutions

1. Consideration of system characteristics
2. System modeling
3. Setting up typical loss reduction programs
4. Determining load loss factors
5. Calculating line and transformer losses
6. Parameters for economic evaluation of losses
7. Economic evaluation of losses -load, no-load and reactive losses
8. Minimizing transformer losses
9. Characteristics of fixed and switched capacitors
10. Optimal placement of capacitors
11. Modeling optimal capacitor placement
12. Analyzing distribution feeder costs
13. Economic replacement of conductors



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## Do we have "Escos" in India

- ✓ Product Dependant Cos – Many
- ✓ Product Independent Cos – V. Few
- ✓ Pure Auditing Skills – V. Few
- ✓ Multiple Competencies – V. Few
  - Thermal
  - Mechanical
  - Electrical

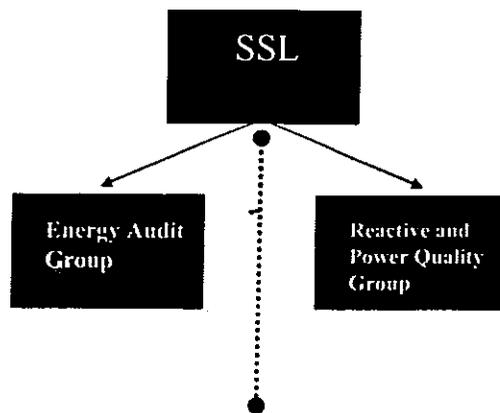
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*"ESCOs" have yet to emerge as genuine service based companies – early stages of evolution (Its taken SSL 5 years in becoming a monkey from an amoeba)*



## SSL Experience: Migrating towards "independence"



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4  
55

### SSL Experience: Electrical Energy Sector Services

- ✓ Power Quality Analysis
- ✓ Harmonic Analysis and Filtering
- ✓ Reactive Power Management
- ✓ Motor Efficiency Improvement
- ✓ Lighting Efficiency Improvement
- ✓ Transformer Load study & Optimisation

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### SSL Experience: Mechanical Energy Sector Services

- ✓ DG set Operation and Performance evaluation
- ✓ Pumping Efficiency Improvement
- ✓ HVAC system evaluation and Improvement
- ✓ Process Optimization
- ✓ Compressed Air system Optimization
- ✓ Flow Measurements and Analysis

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## SSL Experience: Thermal Energy Sector Services

- ✓ Furnace Efficiency Improvement
- ✓ Insulation Measurement and Loss Estimation
- ✓ Waste Heat Recovery System
- ✓ Coolers and Chiller Performance Evaluation and Optimization
- ✓ Optimization of Steam Generation, Distribution and Utilization

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## What are ESCO Services?

1. Energy and Process Consulting
2. Energy Analysis (Audits)
3. Engineering Design
4. Project Financing
5. Construction Management
6. Performance Guarantees
7. M&V of Savings
8. O&M of Equipment
9. Savings Maintenance and Risk Management

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*There is a need for existing ESCO players to add value by considering the addition of the above services.*

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- Raison d'etre for an ESCO Association ?



## SSL Experience: Services Customized to the Indian Scenario

- Industrial Energy Audits
- T&D Loss Reduction Programs
- Professional consulting in Power Quality issues
- Professional consulting in Electrical Demand Side Management
- Detailed economic and feasibility analysis
- Financing, direct loans and equipment leasing

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## ESCOS: the Indian Masala Mix

Could include:

1. Electricity Utility/Suppliers
2. Distributed Power generators
3. ESCO/Performance Contracting Companies
4. Retrofit Organizations

Currently in India most CEEC members fall into category 4, with little or no participation from 1 and 2. Categories 1 & 2 are indeed largest beneficiaries from DSM and ESCO Activities, and most hardly practice it.

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## Why would one be interested in Being an “ESCO”?

1. Pure Profit Motive
2. Social “quality of life” Motive
3. Environmental Motive

1 = main reason; 2&3 = side effects

*Most entrepreneurs understand making and selling a particular H/W product that saves energy in some way much better than selling the idea and related services for assisting energy savings in general, as it is not tangible, quantifiable, predictable, and is skill dependent.*

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- Can an Association Play a role in changing this mindset?

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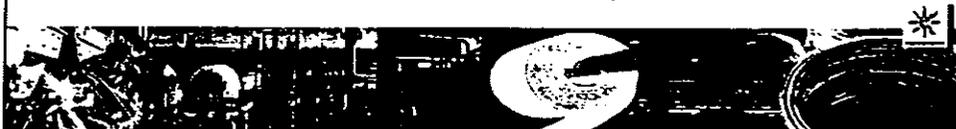
## What is the size of the Indian Market?

- ✓ Product dependant companies know their markets specific to their own products
- ✓ No past Aggregate history or documentation (except perhaps for Lighting)
- ✓ No future forecasts or trends in the Indian context
- ✓ In short – your guess is as good as mine

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## Is there such a thing as an "Esco Industry"

- ✓ Participants still getting used to the idea of ESCO
  - ESCOs; Beneficiaries; Lenders
- ✓ All Esco Companies in India are still small in size and product centric in India – each considers to be part of their product industry (ex. Lighting)
- ✓ Leadership with clout has yet to emerge among existing ESCOs, so this is not likely to happen soon by itself
- ✓ "Industry" Status is hard to come by in India: ex. Film Industry came into existence only recently after a decade of discussion

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## Are the existing leading ESCOs snobs?

- ✓ For most established ESCOs, success has come after a long gestation period: why should others have an easy ride?
- ✓ Every ESCO promoter feels that he is the pioneer of his industry: a pioneer always feel threatened after developing a market.
- ✓ Problem solving techniques to general barriers have become company secrets: no one is interested to share them.
- ✓ Being Product Centric generates natural competitive behavior which discourages productive collusion

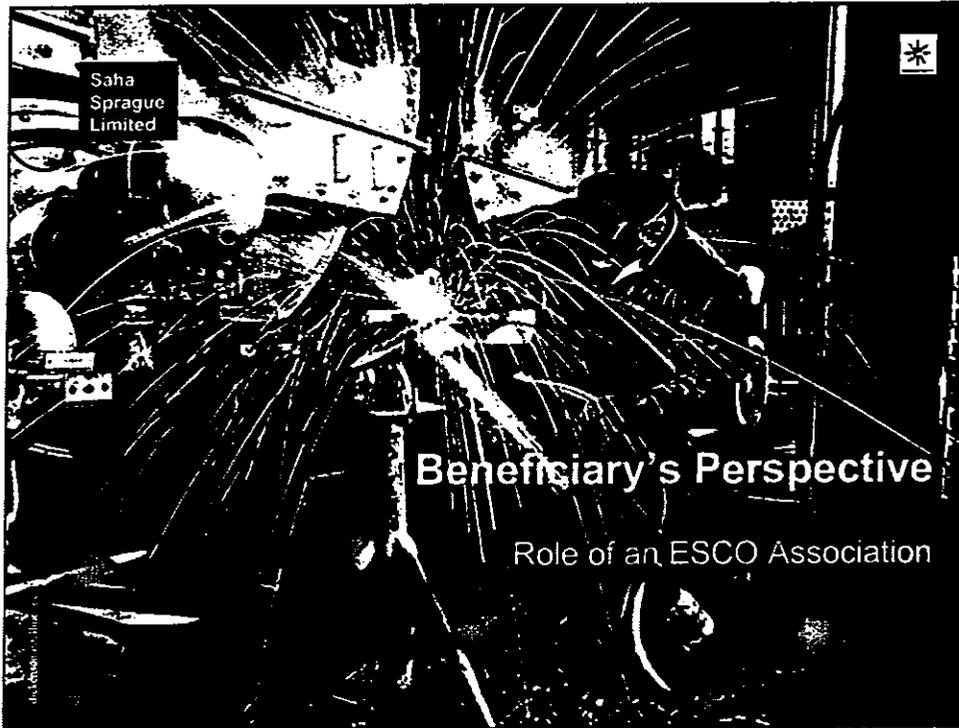
*Conversion of Pride, Ignorance and Selfish behavior into Consolidated Organized Behavior can lead to a larger market creation and access for existing leading players.*

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- Raison d'etre for an ESCO Association ?





## Propagating Performance Contracting

- ✓ *The ESCO's compensation and the project's financing is meaningfully tied to the amount of savings generated by the project.*

Most Clients find this concept to be strange, somewhat new and untried, too good to be true, and view it suspiciously.

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## The Parties Involved

- ✓ The Customer
  - Needs to be credit worthy
- ✓ The ESCO
  - Technical competence
- ✓ The Financier
  - Understands energy efficiency and guaranties

**Needed:** *Credit Rating of Clients; Technical grading of ESCOs Auditing Skills; Listing of Lenders that Support PCs and CFBL*

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## Are all ESCOs equal?

Answer = No

- ✓ No definitions of skill sets
- ✓ No directory of skill sets per Esco
- ✓ No independent certifying body for Auditing skills
- ✓ No clear bifurcation between product and services (both equally important)
  
- ✓ How does a client know who to go to for their most specific needs?

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## Shared Savings: you must be kidding!

- ✓ The ESCO provides the resources to implement an energy cost reduction project on a funded basis
- ✓ The customer "hosts" the new equipment on its premises
- ✓ The parties share in the savings generated by the project for a fixed, specified term

This is Novel Concept for most Beneficiaries, especially ones that are financially sound. Even the financially unhealthy clients find it difficult to convince their top management of such a concept.

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MKS

## Lets shout, but will anyone hear?

- Investment capital by the ESCO/Financier
  - Off-balance sheet
  - O&M savings
  - Interest and M&V savings
  - ESCO/Financier shares the risk
- ✓ Only a few good success stories will embellish this idea into the marketplace. There is a need to have a medium where there such success stories and case studies can be shared and mass marketed to the marketplace.

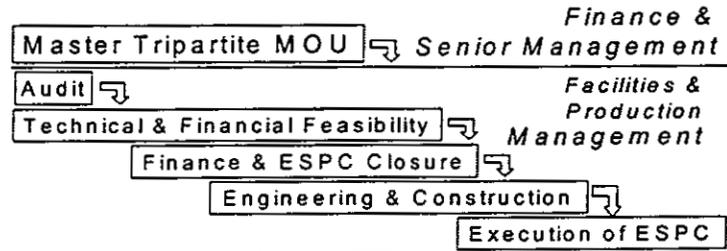
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## Development of Approved Standard Contracts



Clients need to know that they are getting into contracts that are Industry standard and approved by a trusted body, so that their exposure and risks are minimized. This will speed up market expansion and acceptance.

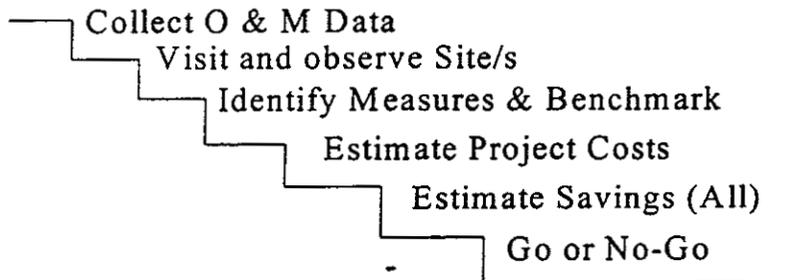
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## Well accepted Protocols for Audit Flow Steps



Clients need to know that the methodologies and procedures for conducting audits are well within acceptable quality standards and integrity. This will speed up market expansion and acceptance.

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## Clients should give ESCOs more respect

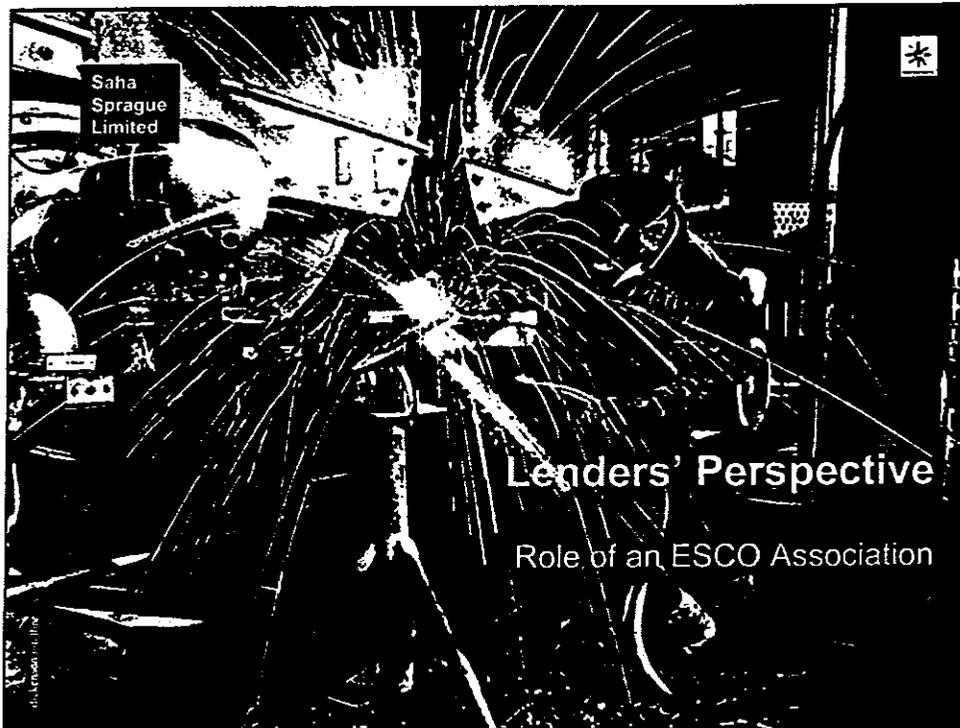
Clients should treat ESCOs as Business Partners and not merely vendors (long term loyalty effect for both client and esco)

Clients need to realize that PC are “made to work”

- Raison d'être for an ESCO Association ?

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## Burning question in a lenders mind

Is a project worth  
financing?

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## Barriers to the Implementation of Energy Services Projects

- ✓ Industry and ESCO Credibility
- ✓ Customer Credit Worthiness
- ✓ Propensity for Risks
- ✓ Investment Hurdles Rates
- ✓ Competition for Capital Rupees
- ✓ Access to Financing
- ✓ Cost of Capital

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## Cash Flow Financing: Really?

- ✓ Loan based on customer's cash flow stream, not on the value of assets
  - Consumer: credit card
  - Commercial building: lighting system
  - Industrial plant: process control system
- ✓ In USA Many energy efficiency projects involve cash flow financing because reclaimable assets are small fraction of loan value
- ✓ India: Cash Flow Based financing is only available to mega projects

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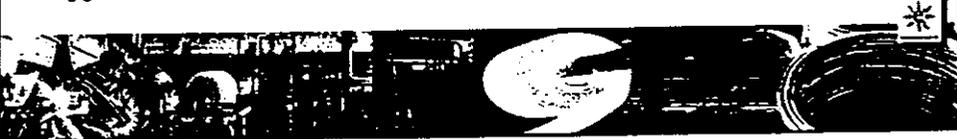
## Performance based Contracts: Alien concepts for Lenders also?

- ✓ Shared Savings Contracts
- ✓ Pay from Savings (First-Out) Contracts
- ✓ Guaranteed Savings Contracts
  - Hell or high water
  - Limited recourse.
- ✓ Shared Net Savings

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## Savings Guarantees: Standards & Credibility?

1. One time guarantee
    1. Good value to customers when savings are dependent on equipment installed and not on long term management attention
  2. On-going guarantee
    1. Appropriate when savings calculations are complex or contingent on good long term maintenance and management
- ✓ Lenders perceive such on-going guarantees as high risk and capital is offered expensively

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## Project Ownership and Financing

- Ownership is a red herring issue (taxes ?)
- All other things being equal, ownership should be placed where it results in the lowest cost of funds.
- Depreciation based Leveraged Leasing does not exist in India

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- Raison d'etre for an ESCO Association ?

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## Lender's Credit Assessment: Strictly Asset Based?

- ✓ Risk analysis is a cornerstone of financing and a borrower's credit strength is the most significant area of risk.
- ✓ Audited financial statements are the main tool used by financiers to assess credit strength.
  - Profit and loss statement
  - Balance sheet
  - Statement of cash flows
- ✓ Credit rating partially solves problems
  - If Project Size isn't BIG enough, back up everything with hard collateral !

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## Risk Mitigation

- ✓ Shortening the term of financing
- ✓ Security in a project
  - security interest in the equipment installed
  - other credit enhancements, such as project equity, additional security above and beyond the equipment and third-party guarantees
- ✓ Escos track record is ultimately the best form of risk mitigation: general success stories requires visibility

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- Raison d'être for an ESCO Association ?





## Is there a perspective?

- ✔ Utility Centric: T&D and DSM
- ✔ Industry: Mandatory Audits (?)
- ✔ Govt. Buildings: State Level
- ✔ Finance:
  - IREDA: Renewable and DSM;
  - PFC: Utility Centric again
  - Escrows (imported and indigenous concept – cause of investment & closure failure)
- ✔ ESCOS: most still use this as a buzzword
- Raison d'etre for an ESCO Association ?

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## "Imagine": John Lennon

- ✓ Maintain 100% depreciation for energy efficient products
  - ✓ Introduce Tax Free concepts for ESCOs like EOU's
  - ✓ Frame Policies that allow and encourage Leveraged Leasing in India
  - ✓ Establish Energy Efficient Standards for Products
  - ✓ Industry Status for ESCOs
  - ✓ Infrastructure Status for ESCOs specializing in T&D and DSM
- Raison d'etre for an ESCO Association ?

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## Concluding Remarks

- Raison d'être for an ESCO Association ?
- Anchor Participants
- Sharing of a Joint Vision
- Financial Independence
- Channeling of Aid funds
- Transparency
- Involved Interaction with other ESCO ASSOC.

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