



Scaling-Up Energy Efficiency: The Case for a Super-ESCO

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Need for ESCOs in Developing Countries

- **A range of DSM and EE programs are being initiated, developed and promoted by governments at all levels**
- **Program types in different countries include energy audit programs, rebate programs, direct install programs, DSM bidding programs, standard offer approach, etc.**
- **Programs offer certain incentives and promotional mechanisms**
- **They generally do not provide the entire amount of funds required for the engineering, procurement and installation of the project**
- **Project implementer therefore needs funds for implementation**





Limitations on Internal Financing

- **Some Project Implementers may have adequate financial resources and deploy these resources for project implementation**
- **Worldwide experience indicates that internal funds have many competing demands**
- **Energy efficiency projects do not receive high priority for internal funds**
- **Therefore the Project Implementer needs to obtain financing from external funding sources**



Barriers to External Financing

- **Small project size**
- **Limited application of “project financing” for EE projects**
- **Lack of knowledge and awareness**
- **Risk perceptions**
- **Relatively high transaction costs**
- **High project development costs**
- **Requirement for collateral or balance sheet financing**
- **Monitoring and measurement of energy savings**



Innovative Financing Mechanisms

- **Establishing special purpose energy efficiency funds**
- **Leveraging financing from commercial financial institutions**
- **Encouraging the use of performance contracting through ESCOs**
- **Other financing mechanisms**
 - **Direct utility financing**
 - **Carbon financing**
 - **Lease financing**
- **Creation of a “Super-ESCO”**





Role of ESCOs and Performance Contracting

- **Performance guarantees assure the successful implementation of the energy efficiency measures.**
- **ESCOs will generally provide operation and maintenance services to assure continued high performance of equipment**
- **Measurement, verification and demonstration of the energy and cost savings is conducted**
- **The ESCO provides breadth and depth of capabilities as well as training to staff of the customer**
- **The ESCO facilitates access to external capital for project implementation**





ESCOs in Developing Countries

- **The term ESCO has been used to designate a wide range of different types of organizations that may offer the performance contracting mechanism**
- **Such organizations may include**
 - **design and engineering firms**
 - **construction management firms**
 - **equipment manufacturers and suppliers**
 - **In-house ESCOs in large industrial groups**
 - **teams comprising of two or more of the above**
- **ESCOs need both equity for project development and debt financing for project costs and working capital.**
- **ESCOs need to develop working relationships with commercial financial institutions and work with them to arrange the needed financing or EE projects.**



Limited Development of ESCOs in Developing Countries

- **Small number of ESCOs**
- **Mostly supported by donor funds**
- **Difficulties in working with Public Sector**
- **Poor credibility with private sector**
- **Small size - limited balance sheets**
- **Limited technical capacity**
- **Challenges in working with FIs**
- **High project development costs**





Establishment of a “Super ESCO”

- **A Super ESCO is an entity that**
 - **Is established by the Government**
 - **Serves as an ESCO for the large untapped public sector (hospitals, schools, municipalities, government buildings and other public facilities)**
 - **Supports capacity development and activities of other ESCOs**
 - **Facilitates access to project financing**
- **It may also act as a leasing or financing company to provide ESCOs and/or customers EE equipment on lease or on benefit-sharing terms.**
- **Recent World Bank study of public procurement of energy efficiency services (being published as a book) identified the Super ESCO as a potentially viable model**



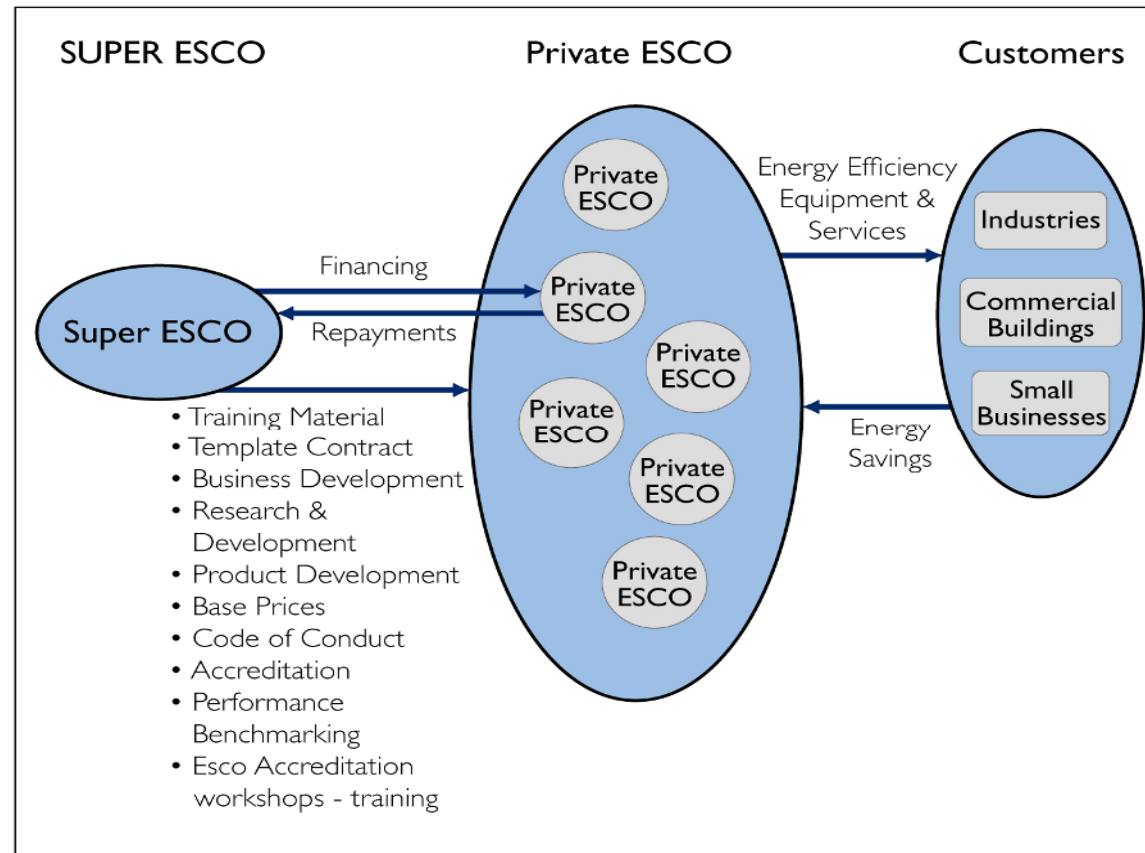


ADB Project in the Philippines

- **Establish the EC2 Corporation as a public sector Super-ESCO**
- **First-year budget of \$6.5 million for public sector projects**
- **First-year budget of \$1.5 million to assist private ESCOs and facilitate financing**
- **Additional funding in future planned by GoP for both public and private sectors**
- **Emphasis on establishing ESCO model in public sector and “commercializing” it in the private sector**
- **ADB funding TA project to develop business plan and provide support in initial activities**



Illustration of Philippines Super ESCO





Role of Super ESCO in China

- **A number of ESCOs have been established in China and many more are being created. However, these are concentrated in certain Provinces, while in other Provinces few ESCOs are operating in the market.**
- **The growth of the ESCO industry has depended heavily on World Bank financing**
- **The commercial banking industry is undergoing a transition in China and needs assistance to fully engage in EE project financing**
- **Government sponsored Super ESCOs at the Provincial level can work with the existing and newly-formed ESCOs and commercial banks to promote increased EE project financing and implementation**



Super ESCO in the Province of Hebei

- **The province has established a DSM center and a wholly-owned subsidiary for project financing and implementation**
- **Energy efficiency fund created through a cess on electricity sales**
- **Goal is to achieve a 600 MW Energy Efficiency Power plant (EPP)**
- **Key initial tasks underway include strategy development, business plan, and implementation approach**





India – Energy Efficiency Services Limited (EESL)

- **Very large untapped potential and a small number of fledgling ESCOs that are mostly undercapitalized**
- **New public sector company EESL established by national government with equity capital of \$50 million**
- **Major functions include EE planning and implementation appliances in buildings and industrial sites, agricultural and municipal DSM, the national CFL scheme and assisting the growth and development of the existing ESCO industry**





How the Super ESCO will help in the Public Sector

BARRIERS TO EE PROJECT IMPLEMENTATION IN THE PUBLIC SECTOR	HOW THE SUPER ESCO CAN ADDRESS THESE BARRIERS
<p>Low awareness and interest on the part of public agencies in energy efficiency (EE) projects</p>	<p>Super ESCO can conduct "marketing campaign" to increase awareness and interest</p>
<p>Zero budgeting policy of many governments provides little incentive for saving energy costs</p>	<p>Super ESCO can develop incentive mechanisms for public agencies</p>
<p>Budgeting Issues for public agencies - Capital Expenditure vs. Operating Expenditure</p>	<p>Agency can avoid issue by having project financed by a Super ESCO</p>
<p>Lack of procurement regulations that would allow ESCOs and Performance Contracting</p>	<p>Contracting with a Super ESCO can overcome this problem</p>





Super ESCO in the Public Sector (continued)

BARRIERS TO EE PROJECT IMPLEMENTATION IN THE PUBLIC SECTOR	HOW THE SUPER ESCO CAN ADDRESS THESE BARRIERS
Limited capacity in public agencies for performance contracting using ESCOs	Super ESCO can develop standard contracts customized for public agencies
Lack of interest on the part of local financial institutions to fund public sector projects	Financing can be provided by Super ESCO
Local financial institutions generally unwilling to provide "project financing" for EE projects	Super ESCO can provide "project financing" for public agency EE projects
Private ESCOs unwilling to invest in public sector projects	Super ESCO can invest in public agency EE projects
Public agencies not used to contracting with private sector for energy services	Public agencies may find it easier to contract with a Super ESCO





How the Super ESCO will help in the Private Sector

BARRIERS TO EE PROJECT IMPLEMENTATION IN THE PRIVATE SECTOR	HOW THE SUPER ESCO CAN ADDRESS THESE BARRIERS
Small number of ESCOs operating in the domestic mret in many nations - makes competition difficult	Super ESCO can facilitate the creation of additional ESCOs
Low awareness of the ESCO concept on the part of commercial and industrial energy users	Super ESCO can conduct "marketing campaigns" and provide case studies and demonstration projects
Most private ESCOs are undercapitalized and have limited resources for project development	Super ESCO can assist ESCOs in project development
Most ESCOs have limited resources for project financing of EE projects	Super ESCO can provide capital and/or leverage funds from commercial financial institutions
Few successful ESCO projects that can serve as "demonstration projects" for ESCO concept	Super ESCO can develop and disseminate case studies of successful ESCO projects
Project hosts unwilling to invest internal capital in energy efficiency projects	Super ESCO can provide capital and/or leverage funds for EE projects from commercial FIs





Super ESCO in the Private Sector (continued)

BARRIERS TO EE PROJECT IMPLEMENTATION IN THE PRIVATE SECTOR	HOW THE SUPER ESCO CAN ADDRESS THESE BARRIERS
Local FIs' lack of familiarity with lending for EE projects	Super ESCO can provide TA to local FIs on EE projects and help develop new financial products
Local FIs' unwillingness to finance ESCOs due to their limited assets	Super ESCO can provide credit enhancement products for ESCOs
Local FIs' perception that EE projects are highly risky	Super ESCO can provide risk management products for FIs
Local FIs' lack of capacity to conduct technical due diligence of EE projects	Super ESCO can provide assistance in technical due diligence
High project development costs for ESCO projects due to limited experience in performance contracts	Super ESCO can develop standardized templates for ESCO contracts and agreements
Commercial and industrial users are not convinced of energy and cost savings benefits of EE projects	Super ESCO can develop standardized and formal measurement and verification protocols





Thank you

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