



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



Accelerating the Egyptian Industrial Sector's Energy transition

Sharing experiences from UNIDO project in Egypt

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Background:

The ESCO business in Egypt started in 1998 to 2006 with a GEF grant of US\$ 4 million to remove technical and institutional barriers to EE in Egypt through the “Energy Efficiency Improvements and Greenhouse Gas Reductions (EEIGGR)” project.

Eight ESCOs were established as a result of the implementation of that project to provide advice in EE and financing.

In 2004, support for the ESCO was refined to focus on a supplier-based credit model with simple contracts in addition to technologies with low technical risks and short payback periods. The project also involved the development of a loan guarantee program for ESCOs to enable them to get bank financing.



Key barriers of the ESCO projects in Egypt

- Lack of awareness of stakeholders regarding ESCO services and models, including clients and FIs
- Absence of the regulations and effective institutional framework
- Absence of relevant databases and information dissemination for IEE
- Lack of appropriate and trusted Monitoring and Verification (M&V) systems
- Currently some mechanisms support ESCO, however they depend on grants and low interest. In other words, no risk guarantee programs are provided as in worldwide experiences.



Key barriers of the ESCO projects in Egypt

- No legal definitions of the ESCOs and their services (which limits financing opportunities)
- Low energy prices and heavily energy subsidies – this barrier is removed by the start of the energy price reform and energy subsidies phase-out in 2014.
- Insufficient political support and commitment – this barrier is also removed as the government is interested in the ESCO in various models. The Ministry of Electricity and Energy is working on developing a super ESCO model with KFW, JAICA and ADB. In addition, there is recently a significant tendency for the establishment and development of some renewable ESCOs in Egypt, mainly for the development and promotion of PV installation for electricity generation, operation and maintenance (i.e. independent power producers model).



Egyptian Program for promoting industrial motors efficiency Project

Project Main Components



Conducive Policy and Legal Environment for EE Motor Systems

Implemented
by UNIDO



Awareness and Capacity Building on Energy Efficiency in Motors and Motor Driven

GEF
funded



Technical Assistance for Technology Demonstration and Up scaling



ESCO model to provide energy efficiency services to industry piloted

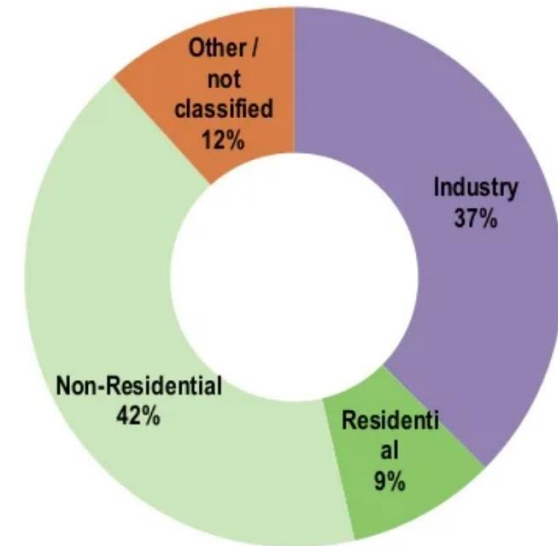
Project Duration is 4 years 2018-2022



What is an ESCO?

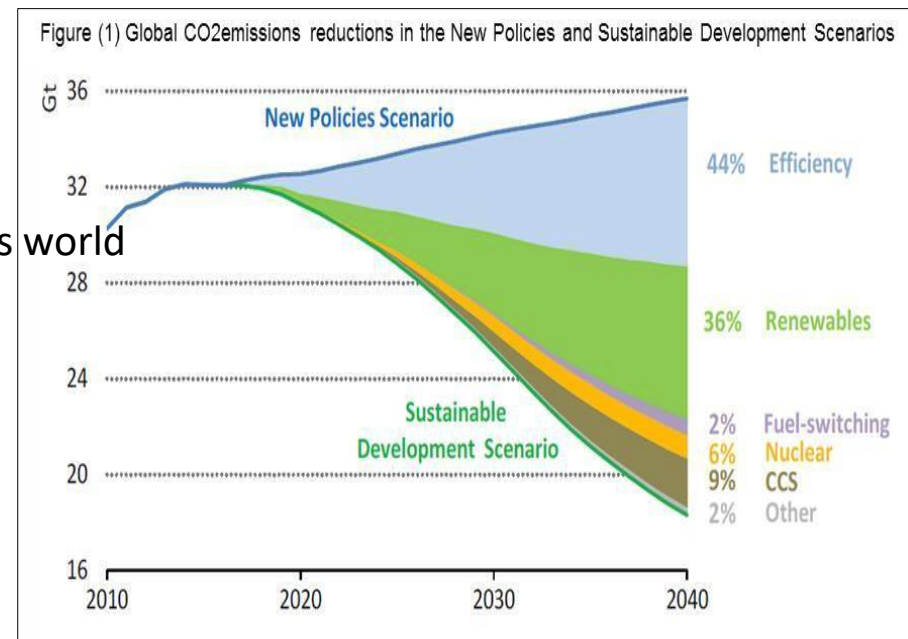
Companies that offer services for **implementing and financing energy efficiency** projects, including energy auditing, design and engineering, equipment procurement, construction, installation, commissioning, measurement and verification (M&V) of energy and cost savings, operations and maintenance (O&M), facility management, and energy services

Global ESCO activity by end-use sector



What is unique about it?

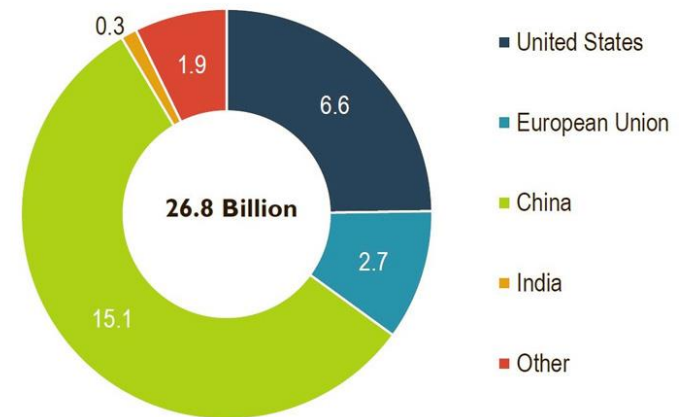
- Bares both financial and technical risk
- Could channel finance to end-users
- Payment is always entirely or partially related to savings
- Provides client with assurance of savings
- Currently is considered critical for EE markets world wide



ESCO Models

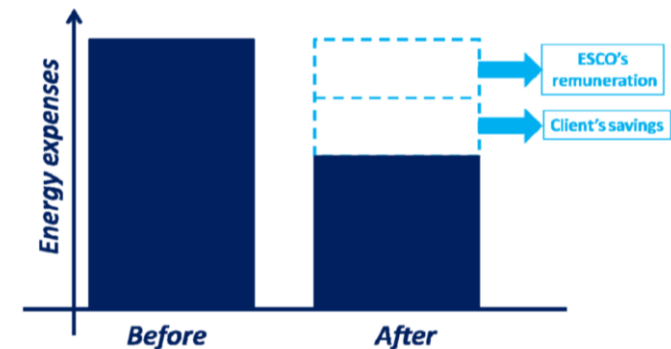
- ESCO are implemented through various models
- There is no best model as it varies depending on market conditions, end-user appetite, and technology
- In the next slides we will present various models
- New models could arise or be developed as hybrids of the above

ESCO revenue by region, 2016



Understanding ESCO Players

- **End-user:** is the entity benefiting from the savings
- **Financier:** is the entity providing the main part of the finance covering the project CAPEX
- **ESCO:** mainly provides technology and saving guarantees and could also provide finance finance finance or guarantee
- **Technology provider:** ESCO could outsource technology provision
- **M&V:** a third party determining if the saving was achieved





Understanding ESCO Players

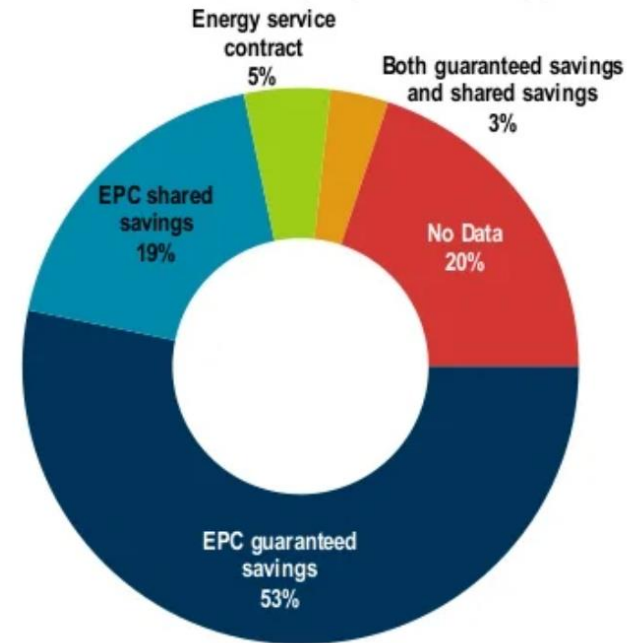
Three standard ESCO business models

Shared Savings

Guaranteed Savings

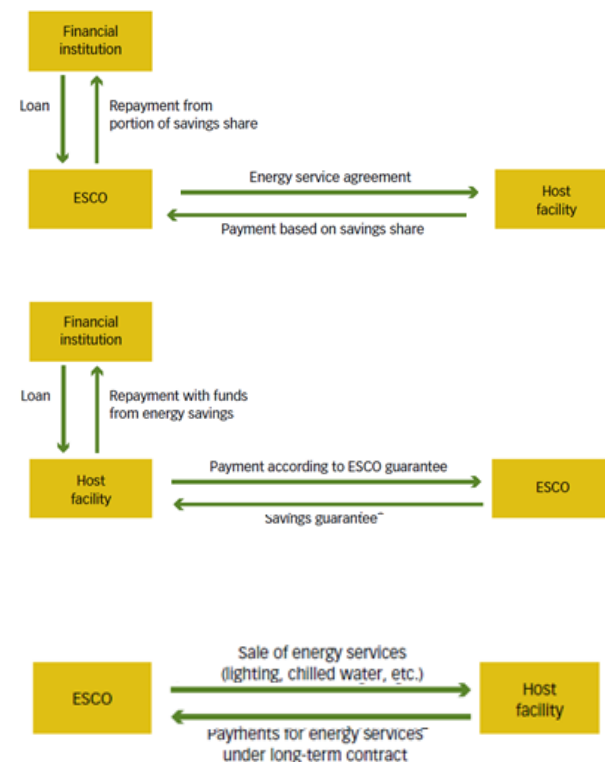
Outsourced energy management

Global ESCO activity by contract type



Main ESCO Models

<p>Shared Savings Model</p>	<ul style="list-style-type: none"> • ESCO provides or arranges for most or all of the finance needed. • Cost savings are shared between ESCO and the client based on predetermined percentage for a fixed number of years. • ESCO guarantees a certain level of cost savings to the client or the host facility. • ESCO assumes performance and credit risk
<p>Guaranteed Savings Model</p>	<ul style="list-style-type: none"> • The client or the host facility borrows the funds needed to finance the project. • ESCO guarantees a certain level of energy savings (the performance standards) to the customer or the host facility (levels of energy savings) and specifies the M&V methods. • Payments are made by the client or the host facility to ESCO once the performance guarantees are satisfied. • The loan is repaid by the client or the host facility to the financing institution (e.g. a bank) out of the energy cost savings. • ESCO assumes the performance risk.
<p>Outsourced Energy Management Model</p>	<ul style="list-style-type: none"> • ESCO pays for equipment upgrades, repairs, and related expenses and sells the energy output, such as steam, heating, etc., to the client or the host facility under a long-term contract at an agreed price. • The ownership of equipment ultimately remains with the ESCO (Build-Own-Operate BOO model) or is transferred to the customer (Build-Own-Operate-Transfer Model).





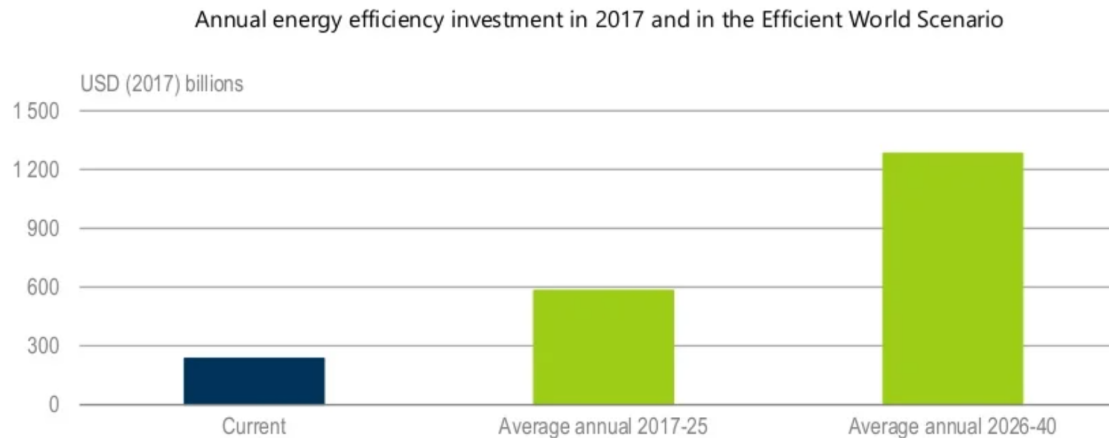
ESCO Models

	For Bank	Challenges with Legal frame
Shared saving	Asset not being on borrower facility is a challenge Payment by client is not guaranteed nor fixed	How to retrieve asset in case of client not paying M&V is absent
Guaranteed saving	Asset not being on borrower facility is a challenge Payment by client fixed but not guaranteed	How to retrieve asset in case of client not paying M&V is absent
Outsourced management	Asset not being on borrower facility is a challenge Payment scheme is clear	How to retrieve asset in case of client not paying



ESCO Models

1. Outsource management with fixed payment component is best for pumps, compressed air systems, chillers
2. Guaranteed saving is the most suitable for the current legal framework
3. Shared savings offers the client the maximum ease of implementation and least financial burden

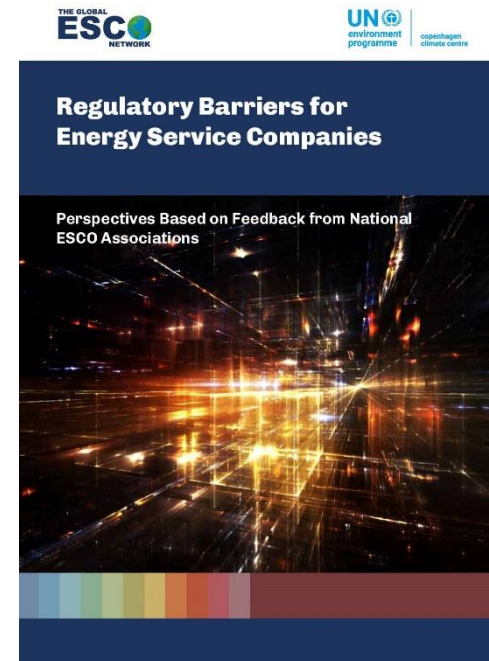




Qualification Schemes - ESCO

Quality Market is Critical for ESCO

- ESCO market is built on trust and competence
- For end-users and finance it is critical to have competent ESCO providers
- Risk is mitigated by the presence of qualified and systematic M&V services
- End-users must see savings and ESCO risk must be mitigated





Qualification Schemes – M&V

- Qualifies any firm willing to offer services monitoring and verification of energy efficiency investments. The service can be offered to any type of institutional clients (commercial or industrial facility or public organization, NGO, etc. but not to individuals)
- The qualification scheme ensures the firms have in place proper structure to ensure high quality of M&V service
- The qualification scheme has an application fee and a renewal fee which are the main finance source to the qualification programs
- The scheme to be operated by qualifying entity



Development of contractual framework

- Draft standardized contracts between ESCO service provider and end-user,
- consistent with international standards and arbitration processes
- can be customized to ensure effective and conflict free service is provided by the ESCO to end-users.



Thank you

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