Energy Service Companies and Financing

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Topics

- What are Energy Service Companies (ESCOs)?
- Why are ESCOs important?
- Energy Performance Contracting
- Barriers
- Overcoming the barriers
- Overview of ESCOs in Latin America
- Examples of ESCOs Worldwide
What are Energy Service Companies?

They provide services to customers such as:

- Energy supply & management
- Energy financing
- Technical engineering expertise and consultancy (e.g. audits)
- Equipment supply / installation / operation / maintenance / upgrade
- Monitoring and verification of performance and savings

ESCOs are typically tasked with:

- Developing and designing energy efficiency projects
- Delivering / guaranteeing energy savings
- Ensuring cost-effective and optimal performance (minimizing project cycle cost)

Can be Public / Private / Utilities
Why are ESCOs important?

- **Advantages:**
  - Outsourcing of energy management with dedicated technical experts (turnkey solutions) focused on identifying and delivering energy savings
  - Help customers understand their energy use and energy saving opportunities
  - Can takeover risk and financing / investment

- **But they can have some weaknesses due to *market failures*...**
  - Not all ESCOs are capable of providing financial services and/or equipment
  - Services can be considered expensive for most SMEs
  - Contracts can be complex and require legal experts
  - Sometimes focus on low cost measures (e.g. not building envelope)
  - ...More expensive then if the customer did it on his own
Energy Performance Contracting

- Sets ESCOs apart from consulting firms and equipment providers

- **ESCO Contract Types:**
  - **Energy Performance Contracting**
    - **Guaranteed Savings:**
      - 1. Agree a target for energy savings with customer
      - 2. ESCO assumes performance risk
      - Typically used if the client provides upfront investment
    - **Shared Savings:**
      - 1. Customer and ESCO agree to share cost of investment and/or energy savings
  - **Others: Leasing or Energy Supply Contracting**
ESCO Financing Models

- **Client pays** for equipment and/or services
- **Financial Institution** lends money to client and/or ESCO
- **ESCO invests** – this allows them greater financial gains from financing and energy services

Example of Shared Savings

Financial Institution

ESCO

End User

Loan

Repayment from portion of saving share

Payment based on savings share

Project development, financing and implementation
Example of Guaranteed Savings

- **End User**
  - Loan
  - Repayment with funds according to EP Contract
  - Project development and implementation
  - Payment for services according to EP Contract
  - Savings guarantee

- **Financial Institution**
  - Arrange Financing

- **ESCO**
Barriers

- Lack or uncertain government support (including as customer)
- Limited interest and capability from financial institutions, e.g.:
  - Size of EE projects – too small...
  - Preference for clients or ESCOs with strong balance sheet
  - SME financing is a challenge
  - Risk perception...trust...
- Low electricity prices and limited availability and/or high cost of energy efficient equipment
- Lack of availability and/or awareness of ESCOs and Energy Efficiency Opportunities/Technologies
- Weak legal framework for contract enforcement
- Public sector energy savings typically implies a reduction in budget
Overcoming the barriers

- You need credible and reputable ESCOs

- Government Initiatives:
  - Energy Efficiency obligations or targets
  - Demonstration projects
  - Promotion & Awareness + Training

- Development of local financing market (e.g. partial risk guarantee funds for ESCOs, ESCO funds)

- Development of certification / insurance for ESCO projects

- SuperESCO / Utility ESCO / Public ESCO

- Bundling of Small Projects from SMEs
Overview of ESCOs in Latin America

- **Brazil:**
  - ProESCO Program: The national bank for development (BNDES) supports Energy Efficiency projects including ESCO projects. Financing can be through BNDES or other certified financial institutions.
  - Electricity distributors are required to invest a 0.25% of their net annual revenue in Energy Efficiency.

- **Mexico:**
  - Connue introduced an ESCO scheme for SMEs
  - ESCO Association called AMESCO

- **Colombia:**
  - Promotion of energy efficiency and clean energy use for SMEs including ESCOs (2008 – 2013) funded by the Fondo Multilateral de Inversiones.

- **Chile is in the process of approving legislation for ESCOs**
ESCOs in South Korea

- **Government very supportive – Policy + Financing + Removal of Barriers** (*high dependence on energy imports*)
  - Revision of Rational Energy Utilization Act to include an ESCO program
  - Tax Credits for ESCO projects (*3-10% tax deduction on income or corporate tax for energy efficiency investment*)
  - Long-term and low interest loans for registered ESCOs (*8-10 years with 1.5 – 3.7% interest*)
  - Loans for financial institutions (Energy Conservation Fund)
  - Government (through KEMCO) issues recommendations on projects so banks can lend money
  - Change of government procurement to allow for multi-year contracts
  - Demonstration projects
ESCOs in South Korea

Loan Procedure:

- ESCO or energy-user files an application online
- KEMCO reviews the application and conducts an expert review of the proposed project
- If accepted, KEMCO issues loan recommendation
- ESCO or energy-user uses the loan recommendation to secure financing
- Agree on loan and repayment conditions with the financial institutions
- The financial institution can then apply for a low-interest loan from KEMCO

In 2012 the funding provided was approximately **502 million USD** and resulted in a **saving of 550 kilo tons of oil equivalent** (approx. 5.7 TWh)

= 11 kWh saved per USD spent
ESCOs in South Korea

Government

Implementing Agency (KEMCO)

Financial Institution

ESCO or Energy User

Budget Allocation

Report on Financing Status

Loan, Guideline, Commission

Repayment

Loan

Reporting

Documentation / Request for Loan
ESCOs in South Korea

- How the ESCO Market has evolved:
  - ESCOs must be registered with KEMCO (legal requirement)
  - Government-led pilot projects for new areas
  - Provision of training of technical experts
  - Development of standard contract models and guidelines (e.g. monitoring and verification)
  - Program Roadmap and continuous support since the 1998
Examples of ESCOs Worldwide

- **Germany – Energy Saving Partnership:**
  - Berlin Energy Agency and Berlin Senate (1990s)
  - Refurbishment of existing public and private buildings
  - No upfront investment from building owner
  - Accredited ESCO selected through tenders to finance and implement energy saving measures.
  - At least 1,300 buildings refurbished – 64,000 tons of CO2 savings/year
  - Energy Performance Contract between building owner and ESCOs (pay as you save)
Examples of ESCOs Worldwide

- Austria – Integrated Energy-Contracting:
  - Government owned real estate company in Styria – manages 420 buildings
  - Tenders launched for ESCO proposals, with criteria:
    1. Lowest project cycle cost for energy supply;
    2. Lowest CO2 emissions,
    3. Highest energy cost savings through demand side saving measures
    4. Payback period must also be less than 15 years.

Government agency that manages public buildings and sets up a process of energy efficiency implementation through ESCOs
Group Discussion

- Do you have an ESCO market and/or ESCO financing mechanisms available in your country?

- If yes, can you provide more details on what support mechanisms are in place, challenges and success factors?

- If not, why not? What would be needed to develop the ESCO market in your country? What policies would you recommend first?
Gracias

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