Energy Services Companies (ESCO’s) – definition and best practices across the EU

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ESCOs in EU and National policy


- EU Directive 2006/32/EC on energy end-use efficiency and energy services (ESD)

- First Romanian Energy Efficiency Action Plan (ESD)
Definitions

- **Energy Service Company" (ESCO):** delivers energy services and/or other energy efficiency improvement measures and accepts some degree of financial risk.

- The **remuneration of ESCOs is directly tied to the energy savings achieved.**

- ESCOs can **finance, or assist in arranging financing** for the operation of an energy system **by providing a savings guarantee.**

- ESCOs Retains an **on-going operational role** in M&V over the financing term.

- **Energy Service Provider Companies" (ESPCs) provide services for a fee or as added value to the supply of equipment or energy.** The cost is recovered in the fee, and doesn’t assume risks in case of underperformance.
A mean to deliver energy efficiency improvements to facilities that lack any of the following:

- Energy engineering skills
- Manpower or management time
- Technology information
- Capital funding
- Understanding of risk

Typical services

- Energy audits, feasibility studies
- Engineering design
- Equipment procurement
- Subcontractor management
- Construction
- Measurement and verification
- Operation and maintenance
- Project financing
Energy Contracts

- **Energy performance contract (EPC):** an arrangement between the beneficiary and the ESCO on an energy efficiency improvement measure, where investments in that measure are paid for in relation to a contractually agreed level of energy efficiency improvement;

- **Delivery Contracting (DC, aka Supply Contracting, Contract Energy Management, Chauffage):** the supply of a set of energy services (such as heating, motive power, etc.). The fee for the services is calculated based on the client’s existing energy bill minus a certain level of savings, with a guarantee of the service provided.

- **Build-Own-Operate-Transfer (BOOT) contract:** supposes an organisation designing, building, funding, owning and operating the scheme for a defined period of time and then transferring this ownership to an agreed party.
Two types of external financing:
- ESCO Financing (ESCOs subsidiary of large groups)
- Third Party Financing (mainly from banks).

Contractual Arrangements:
- Shared savings
- Guaranteed savings

Energy cost [Euro/yr.]

Actual cost

Cost after implementing energy-saving measures

Energy cost saved = contracting rate

Customer share

Contracting rate

Time [yrs.]

Start of main tasks

End of contract

Duration of energy-saving measures
Third Party Financing (TPF)

ESCO Financing (shared savings)

- Energy User
  - Credit and performance risks
- EPC
  - Service
  - Payment
- ESCO
  - Credit and performance risks
- Financing Agreement
- Bank (FI)

User Financing (guaranteed savings)

- Energy User
  - Credit risks
- EPC
  - Service
  - Payment
- ESCO
  - Performance risks
- Financing Agreement
- Bank (FI)
ESCOs in Europe

- **Most popular** form of contract and service is still **Delivery Contracting** (Chauffage) with the supply of energy (dominant in France, Italy, Spain and very popular in Germany and UK);

- **EPC** is **increasing market share** in most EU-15 countries, in particular Germany, UK, Italy, France;

- **BOOT** is **common for CHP projects mainly in industry**, very popular in Italy, UK, and other markets.

- **More details**: JRC ESCO status report 2005 and ESCO Update Report 2007 and 2010
  
Main sectors and projects

- Traditionally **the public sector** (buildings) is in primary focus (trustful, large systems, short payback time, open for outsourcing, often augmented by governmental or IFI aid);
- **Industrial sector** is more important in certain countries (Italy, Finland, Ireland, Slovenia);
- **Residential buildings** (multifamily buildings) sector is starting up in some countries (e.g. Germany, Estonia, France, Italy, Norway, Hungary), including some deep retrofits.
- "low hanging fruits” have been addressed (public lighting, HVAC, control systems renovation);
- **CHP (and DH in NMSs)** still plays a major role;
- **Deep retrofits** (e.g building insulation), not commonly done by ESCOs (done in combination with incentives!).

ESCOs invest in the projects that offer appropriate profit at an acceptable level of risk.
ESCOs: few country profiles

**ROMANIA**
- **14 companies**, increase for the last years; but projects are very scarce;
- ESCOs estimate market at 50 M €;
- Most interested clients are in industry (combustion systems/improvements, CHP); limited interest in public sector.
- Commercial banks interested, international financing institutions are present, Romanian Energy Efficiency Fund (FREE). However financing is a problem as a result of accounting and legal barriers (i.e. lack of secondary legislation).

**GERMANY**
- Big consolidated market (the largest), large industry (up to 500 companies, around 50 dealing with EPC); 2 Bln. € annual turnover (200 M € for EPC). 10-15% of market potential reached, 1300 public buildings renovated;
- Average pay-back time is increasing to 5-15 y;
- Energy contracting is most common, followed by EPC (most shared savings);
- Municipal sector and multi-families buildings are the most popular customer;

**HUNGARY**
- ESCO industry from early 90s. 20-30 ESCOs, 5-6 cover 80 % of market;
- Early start with public lighting, more recently heating and hot water projects, with trends towards AC, water and steam supply, RES;
- Public sector the main client, industrial clients getting more attention (co-generation), some attention to the residential sector;
- Commercial financing is NOT a problem, banks eager to lend to ESCOs (2009)
ESCOs - Main barriers

- **Low awareness** and **lack of information** about the ESCO concept;
- **Skepticism on the clients’ side** and little understanding of the opportunities ESCO projects and EPC offer;
- **High perceived risk of the ESCO investment**, lack of expertise and experience on the financial market;
- **Non-supportive procurement rules**;
- **Accounting problems** (investment vs. operating costs);
- **Lack of ”off-balance sheet” solutions**, need more commercial banks financing;
- **Public budgeting rules** (”pressure to spend” and yearly budgets);
- **Reluctance to outsource**;
- **Lack of M&V protocols + baseline data**;
- **Administrative hurdles, high transaction costs** (especially for saving guarantees);
- **Split incentives**.
ESCOs enabling: Facilitate financing

- **Guarantee programmes** that expand access to debt, thereby lowering the cost of financing and enabling more comprehensive EE project development;

- **Special purpose credit lines or revolving funds** to mitigate liquidity constraints in the banking sector and/or provide long-term credits to finance institutions and subordinated debt instruments to close an existing equity gap.

- **Engaging DFIs – including public banks** – as they are able to structure and competitively fund customized EE programs and financing initiatives;

- **Expanding partnerships** between financing sources and utilities, city agencies, and ESCOs, which have longstanding relationships with customers, to rapidly identify EE opportunities.
ESCO enabling: Main Factors

- **Standard procedures and documents** to help setting up an ESCO project;
- **Dissemination** of information for potential clients, financial market;
- **Demonstrative sites/projects**;
- **Reduction of transaction costs**;
- **Policies**: White Certificates (or such as Carbon Reduction Commitment-UK);
- **Mandatory audits, voluntary agreement systems**;
- **Quality labeling, certification**;
- **Liberalization** of the energy markets;
- **Energy price increase and/or higher consciousness (CC)**;
- **Access to finance or technical assistance**;
- **Guarantee schemes and ESCO assurance**;
- **Improved regulatory background** (e.g. green procurement).
Basic conditions for an ESCO market

- To create long-term comprehensive energy efficiency programmes & facilitate financing

- To create a clear legislative framework (including secondary legislation) and to establish appropriate market instruments & mechanisms.

- To educate the users and financial people is critical needed in most countries.

- To enhance the public acceptance of ESCOs. Focused policy support and supportive policy frameworks (adapting public procurement it is among the most important measures)

- To establish an ESCOs association and enhance the collaboration with national energy agencies
Thank you!
Multumesc!

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