

HEP ESCO d.o.o.

The use of ESCOs to facilitate sustainable energy interventions in households

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HEP ESCO position in HEP Group

- Publicly owned company
- Different position from other newly established ESCO companies:
 - Positive: experience (17 years), know-how, certified experts, trust, possibility to manage big projects of any type, financing should not be a problem, contact to customers;
 - Negative: complicated procedures for project permission, part of big and slow system, higher costs, complicated public procurement procedures what is not suitable for private clients and preparation for tenders

HEP ESCO opportunities

Opportunities:

- Responsibility of HEP as utility company towards customers to offer energy services (ESCO project for big consumers, advisory services for citizens) – transition toward new business model **„energy as a service”**
- Obligations and responsibility of HEP towards energy efficiency directives (1,5% savings) – **Article 7 EE Directive**
- Closer cooperation with sister companies HEP Opskrba, HEP Toplinarstvo, HEP Plin, HEP Elektra dealing with supply of electricity, heat and gas – **„one stop shop”**

Energy services for residential sector



► Consulting services – technical assistance:

- Preliminary investment studies
- Detailed investment studies
- Project management

► ESCO projects - investments:

- Energy efficiency measures
- Renewable energy sources
- Energy optimization

► Energy management services:

- In cooperation with facility managers (ESCO monitor, HEP smart applications)

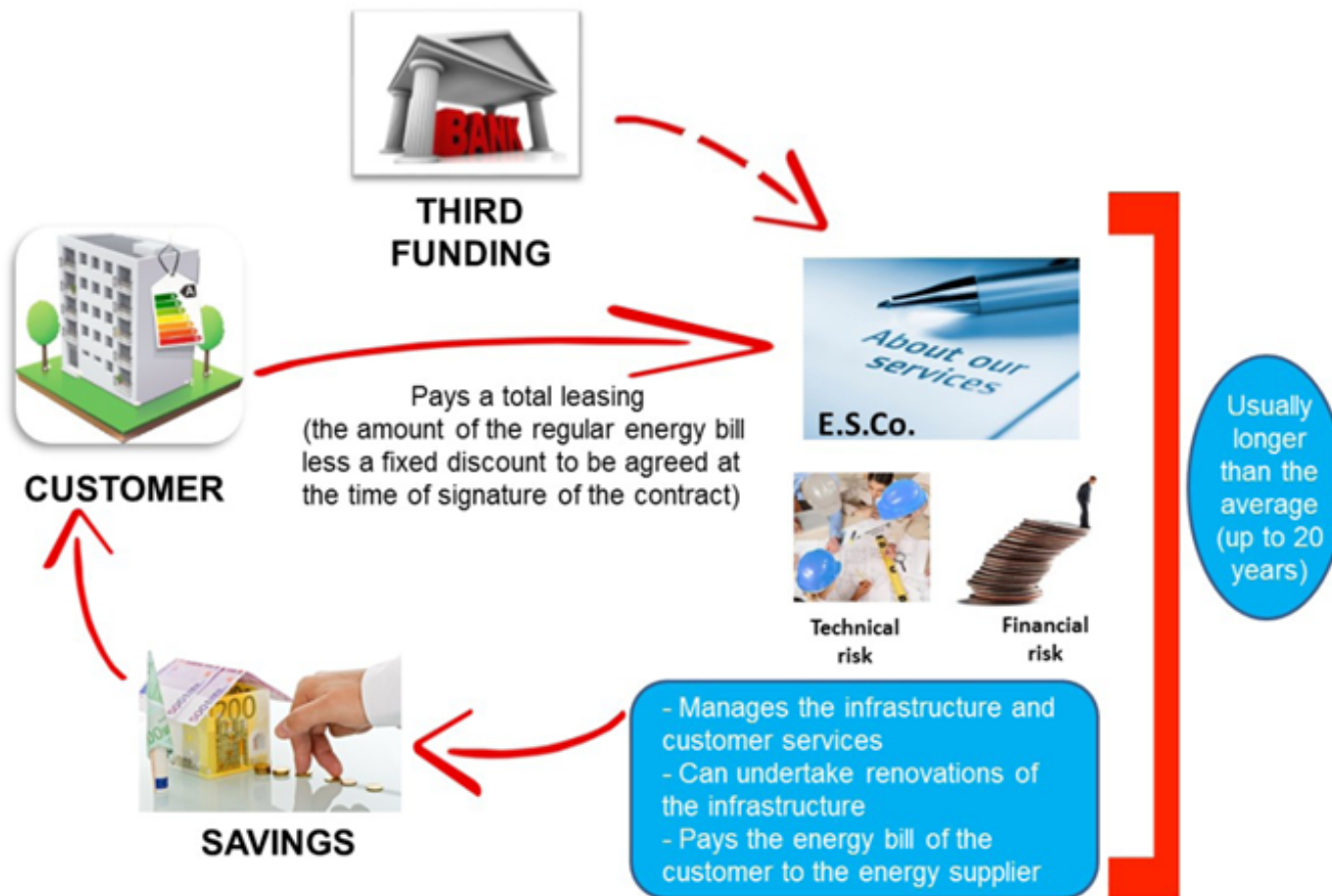
► Training and education



ESCO model

- **ESCO** – **E**nergy **S**ervice **C**ompany and is the generic name of the concept in the energy services market - the development, implementation and financing of projects with the aim of improving energy efficiency and reducing operating and maintenance costs.
- **The goal** - to reduce energy costs and maintenance by installing new more efficient equipment and optimizing energy systems, thus ensuring the return on investment through savings over a period of several years depending on the client and the project – ensuring the same or better comfort/service.

ESCO model – scheme of the contract



Source: <http://certus-project.eu/>

Investments vs. Savings in ESCO projects

Investments:

1. equipment
2. installation
3. Project design
- 4. ESCO service**
 - **engineering (working hours)**
 - **Risk insurance**
 - **profit**
5. Cost of financing
- 6. Monitoring (for EPC contracts)**
- 7. Measurement and verification (for EPC contracts)**

Savings:

1. Energy savings (electricity, heat, gas,...)
2. Water savings
3. Maintenance savings



ESCO model in residential sector

- Energy service companies (ESCOs) **market for residential buildings** is much less developed than in other sectors (e.g. the industry or public/service sectors).
- Energy policy experts and researchers - generally bit **sceptic** about the possibility of a real and significant development in the near future (low level of energy prices, lack of information and awareness, lack of appropriate forms of finance).

Barriers for ESCO model in residential sector

- The **high transaction costs for ESCOs** relative to the small amount of energy costs and thus potential cost savings per single EES supplied.
- **Too long pay-back period** for total energy renovation (15-20 years)
- The so-called **landlord/tenant dilemma**, where the tenant has an interest to achieve energy savings through EEL actions, while the landlord typically receives no benefits from these investments.
- **High risks** for ESCO for investment returns

Barriers for ESCO model in residential sector

- Difficulty for residential customers to understand the ESCO model and the EPC financing and contract and **lack of information** on the availability of ESCO services.
- **Decision making processes** existing in multi-apartment buildings (which usually represent the most interesting investments for ESCOs) – only the general assembly of apartment owners can take decisions about building investments including possible EES implementation.
- Energy consumption in the residential sector is much more correlated to **individual needs and behaviours** than in other sectors - difficult to define a consumption baseline and induces high risks when setting energy saving guarantees.

Barriers for ESCO model in residential sector

- The lack of credibility of ESCOs also partially due to an often **lacking legal framework** for the accreditation of ESCOs – some bad experiences because poor quality services.
- The fear to become **too much dependent** on the ESCO, especially if the contract also includes the supply of energy.
- The economic/pandemics crisis and related economic and **political uncertainties**.
- The lack or difficult accessibility to financial solutions dedicated to energy efficiency in commercial banks, and the scarce public subsidies or incentives for EEI.



ESCO model in residential sector



- Energy companies (very often heating oil companies in competition with gas companies) offer EES mainly addressing EEI actions concerning space and water heating in combination with bank services.
- Energy saving obligation for energy companies – stimulates utilities to supply EES to their household category customers – good practice of scheme in Ireland (2014 – 2016):

	Non-residential	Residential	Energy Poverty
Buyout Price	6.0 c/kWh	20.4 c/kWh	88.0 c/kWh
Penalty Price	7.5 c/kWh	25.5 c/kWh	110 c/kWh



CONNECTING OBLIGATED
PARTIES TO ADOPT INNOVATIVE
SCHEMES TOWARDS ENERGY
POVERTY ALLEVIATION

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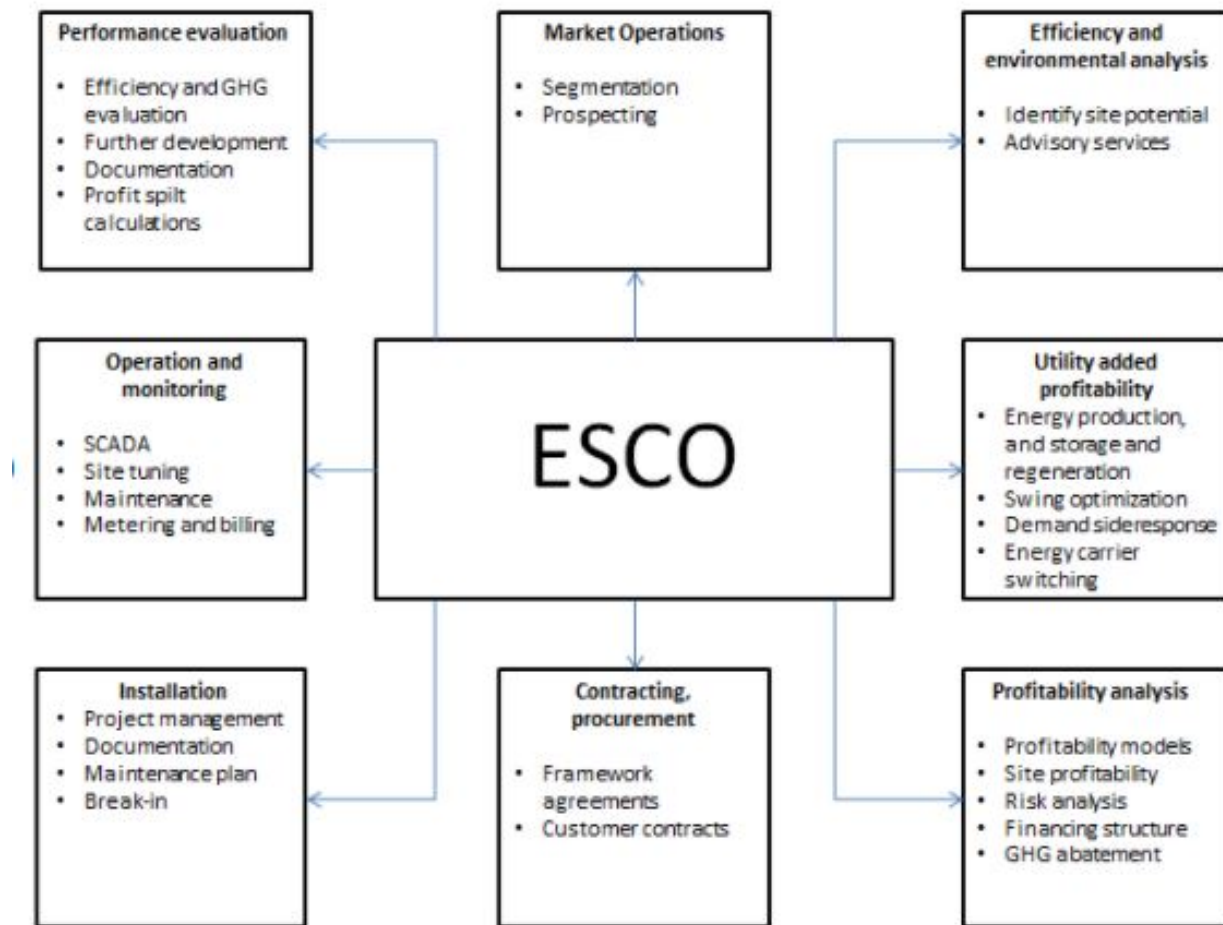


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ESCO model



Services to be offered by Energy Service Companies

Source: www.researchgate.net



ESCO model

GENERAL INFORMATION	CUSTOMER	– The customer entrusts the management of its plants to the ESCO and it pays a fee equal to the historical spending or lower. At the end of the contract, the customer has the ownership of the property
	ESCO	– ESCO pays the energetic bills and bills of fuel for the duration for the contract (technical risk) – ESCO finances the maintenance/ redevelopment / upgrading interventions of the existing installations – For the duration of the contract, receives 100% of the savings achieved
	BANK	– The Bank finances the ESCO if not use the equity
SWOT ANALYSIS	STRENGTHS	– Suitable for renovation and management of energy systems in buildings that require specific standards of comfort (eg hospitals, schools, government offices where the respect of a certain comfort has priority over the level of energy savings)
	WEAKNESSES	– Energy savings lower than other models – Long time for the contract
	OPPORTUNITY	– The flexibility of this model is advantageous because it allows for the ESCO easier to find private partners – The ESCO will have the opportunity to choose whether and to what extent perform the renovations
	THREATS	– Intervention on infrastructure is not always guaranteed, unless otherwise agreed in the contract

Source: <http://certus-project.eu/>