



Institute
of Environmental
Economics

ESCO market in Poland

current state and
development
perspectives



Inception report

IEE March 2012

This report has been prepared for a meeting of the Polish National Energy Conservation Agency, the National Fund for Environmental Protection and Water Management and the European Bank for Reconstruction and Development dedicated to the ESCO Fund, organised on 22 March 2012 in Warsaw.

This publication was prepared thanks to the financial support of the European Climate Foundation.



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Introduction



This report was prepared as a part of research into the Polish ESCO market conducted by the Institute of Environmental Economics (IEE). Presented information about this market's development is based on the results of the two first stages of the three-stage research procedure carried out by the consultants of the Institute of Environmental Economics and the CEM Market and Public Opinion Research Institute as well as the research conducted by IEE in 2011¹. The stages implemented to date allow for a preliminary estimation of the total market turnover, analysis of ESCO involvement in respective sectors and identification of barriers impeding development of this market. The IEE plans to devote the next research stage

to defining development perspectives for the ESCO market and analysing detailed aspects of its operation in the public sector.

Since 2011, IEE and the Polish National Energy Conservation Agency (KAPE – Krajowa Agencja Poszanowania Energii) have been organising regular meetings of ESCO representatives (ESCO Club). Next such a meeting is planned in May 2012. Organisers plan to focus it on implementation of energy performance contracts under public private partnership and energy efficiency investments that could be conducted simultaneously with tenders for electricity purchase that are becoming popular among municipalities.

¹ In 2011 the IEE team conducted structured in-depth interviews with the following companies: Dalkia Polska S.A., Cities Lighting Consultants, Siemens Sp. z o.o., ES-SYSTEM, Builddesk Sp. z o.o., POE ESCO Sp. z o.o., Ryszard Śnieżyk – a consulting company specialising in heating, CECED Polska.

Research methodology

Stage I of the research included a focus group interview with representatives of ESCOs as well as institutions supporting ESCO market development in Poland. The meeting took place in KAPE's office in January 2012. It was conducted as a discussion moderated according to a scenario that was prepared in advance¹. The discussion lasted around three hours and was recorded – it was used as one of the sources for this report. At the end of the meeting its participants were asked to fill in a questionnaire about the size of the Polish ESCO market.

The following research objectives were fulfilled within stage I: (i) preliminary estimate of the market turnover, (ii) specification of the market structure, (iii) definition of development perspectives, (iv) identification of the most significant barriers to development, (v) assessment of the impact that possible changes in the business environment and legislation could have on the development of this market and (vi) preparation of recommendations for further work on the ESCO Fund. Responding to the need to identify potential projects, voiced by the EBRD, this stage of the research was extended to include information about potential projects and investment plans of respective ESCOs.

Stage II, implemented in March 2012, included short, semi-structured telephone interviews with ESCO representatives. Several companies were asked to prepare in writing data on the market and their investment plans. The aim of this stage was a more detailed estimate of the ESCO market turnover for the current and the next year and preparation of a list of potential projects.

Stage III is planned in April 2012 and will include eight in-depth interviews with representatives of local governments that are planning, conducting or have conducted

investments under the ESCO mechanism, or that have any other experiences with this type of projects. In-depth interviews will be based on an interview scenario prepared in advance. They will be registered as audio files for further analysis and preparation of a report. Detailed research objectives for this stage include: (i) identification of the most significant barriers for the ESCO market development in the opinion of local government units, (ii) development of good practices for ESCO investments in the public sector, (iii) specification of necessary activities for increasing access to the ESCO mechanism in the public sector, (iv) preparation of recommendations with regard to development directions of the ESCO Fund, from the perspective of local government units.

As all the three stages include qualitative analysis only, data collected in this research should be treated as estimates that do not allow quantitative assessment of demand for services offered by ESCOs².

¹ Representatives of the following institutions participated in the interview: Eurocentrum Katowice, Dalkia Polska S.A., ES-SYSTEM, CECED Polska, Polish Foundation for Energy Efficiency (Fundacja na rzecz Efektywnego Wykorzystania Energii), Przedsiębiorstwo Oszczędzania Energii ESCO Sp. z o.o., Industry Development Agency (Agencja Rozwoju Przemysłu), Siemens Sp. z o.o., KAPE.

² In order to obtain statistical data describing investments in energy efficiency under the ESCO model, it is necessary to conduct wider, quantitative research on a randomly selected sample of local government units. Such a research will enable a more detailed and precise analysis and estimate of the ESCO market potential in the public sector. Computer assisted web interviewing (CAWI) is suggested as a technique to be employed at this research stage. Respondents can be recruited by means of computer assisted telephone interviewing (CATI). The research should be conducted among 400 local government units, which will provide a sufficient statistical basis for obtaining precise values for the ESCO market potential in the public sector.

Stage	Implementation status	Implementation period	Research type	Research technique	Analysed group	Research tool
Stage I	Implemented	January 2012	Qualitative	Focus group interview	Representatives of ESCOs and public institutions	Focus group interview scenario
Stage II	Implemented	February – March 2012	Qualitative	Partly structured telephone interviews	ESCO representatives	Interview scenario
Stage III	Planned	April 2012	Qualitative	Personal in-depth interviews	Representatives of local government units	Interview scenario
Stage IV	Optional	April – May 2012	Quantitative	Web interviews (CAWI) supported with telephone interviews (CATI)	Representatives of local government units	CAWI scenario

Objectives

- Preliminary estimates for the ESCO market turnover and its development potential;
- Market segmentation and identification of main areas of ESCO involvement;
- Identification of barriers impeding ESCO market development;
- Initial assessment of the role that could be played by the ESCO Fund.

Definitions of basic terms

An energy service company (ESCO) is a company specialising in projects that increase energy efficiency and lower energy expenditures incurred by ESCO's clients.

ESCOs utilise their own funds to implement a particular modernisation project required by a client and recover their outlays (and remuneration) in payments distributed over time. These payments are covered by the client from energy savings generated by the project.

In practical terms, there are various models for ESCO services. They apply different financing methods, strategies for risk allocation between an ESCO and a client or approaches to sharing profits from energy savings.

An energy performance contract (EnPC) is an agreement between a client and an ESCO that defines technical and financial conditions, solutions for measuring energy savings and requirements for an energy savings guarantee.

ESCO market size

Representatives of ESCO companies estimate the annual turnover on this market as EUR 10-25 million.

ESCO
market
size

As a system of current monitoring of ESCO services is missing, it is difficult to provide a precise estimate of turnover on the Polish ESCO market. It is very probable that selected large market players monitor its size. However, these data are treated as a commercial secret of companies that take effort to collect them. Nevertheless, based on knowledge of experts (mostly representatives of the highly active ESCOs), one may define threshold values specifying the scale of ESCO investments in Poland. Although experts differ rather significantly in their estimates, they agree that the ESCO market turnover last year was not lower than EUR 10 million. This value should be treated as the lower range estimate. Opinions voiced by some large market players suggest that the ESCO market turnover may in reality be much higher – its upper range value is estimated at EUR 25 million. Representatives of companies that specialise in lighting and electricity investments tend to define the turnover of ESCO contracts in electricity at the level of EUR 13 million annually. This confirms the claim that the assumed lower band value of EUR 10 million for the whole ESCO market is a significant underestimation and the actual turnover is much higher. Therefore, for the purposes of preliminary calculations, the value of EUR 25 million can be regarded as a realistic estimate for the upper band of the ESCO market turnover last year. Some companies, however, implement a lot of contracts in a

form that goes beyond the ESCO concept, and as such have not been taken into consideration in the above estimates. Therefore, it is justified to assume that the total turnover, including mixed types of contracts, may be even higher.

Respective segments of the ESCO market are characterised by high change dynamics. Interviewed ESCO representatives agree that the volume of ESCO projects conducted in the public sector has been decreasing for several years now due to unfavourable legislative provisions that discourage local governments and entrepreneurs from implementing ESCO contracts. Some significant players on the ESCO market nearly entirely limited their operation in the public sector due to lack of tenders, which reflects the scale of the changes. Nevertheless, the public sector remains an important market segment – experts claim that it accounted for 40-50% of the total market turnover for ESCO contracts in 2011.

A great majority of the experts expresses positive opinions about the development potential of the Polish ESCO market, expecting that its turnover should increase in 2012. This optimistic approach results inter alia from information on tenders published so far and expected further ESCO investments in private sector. Despite the legal barriers that impede significant increase in the investment volume,



E S C O m a r k e t s i z e

the public sector should play an important role in the ESCO market growth in 2012. According to the experts, this sector stands some opportunities for becoming more open to ESCO contracts.

Although the Polish ESCO market has a significant potential, it still remains at the initial stage of its development. The number of its players – both ESCOs and clients – is rather small. Experts agree that the market has been developing rather consistently for several years now. Nevertheless, considering various circumstances that favour this development, e.g. growing energy prices or the EU policy enhancing energy efficiency, this growth should be much faster. Moreover, it is worth noting that the Polish ESCO market still operates to a large extent as a market that is created by ESCO companies rather than as a response to spontaneous demand voiced by clients. This requires significant involvement of ESCOs and other institutions that support this market through information, education and awareness-raising activities.



ESCO market sectors

and their development potential

Based on information provided by ESCO representatives, investment plans in ESCO services can be estimated at the level of EUR 25-75 million annually¹.

ESCO companies are active in various sectors, performing activities for various types of clients. Some ESCOs offer a wide range of services, while other specialise in one segment (e.g. street lighting). ESCOs provide services for the public sector, the commercial sector, the energy sector, industry, small and medium enterprises (SME) or even households. Considering their volume, the latter offer a significant potential for energy savings connected with use of household appliances and lighting.

Each of the above sectors has different characteristics and development potential.



Industry



Public buildings



Street lighting



Heating



Residential buildings



Commercial buildings



Public transport

¹ This is indicative information that was collected during interviews with several ESCO representatives (e.g. Siemens Polska, Dalkia Polska, POE ESCO Kraków, City Lighting Consultants) and industry representatives who are planning to enter EnPCs. These indicative data will be verified at the further stages of qualitative and quantitative research.



Public sector

street lighting and energy efficiency improvement in buildings

In the public sector we may distinguish two main investment types that require separate consideration, namely, projects in street lighting and projects in improvement of energy efficiency in public buildings.

Investments in modernisation of street lighting usually have short payback periods and are relatively easy to contract and implement. ESCO investments in this sector have been popular with local authorities in Poland (the authors believe that this was the largest segment of the ESCO market in terms of the number of signed contracts). Representatives of ESCO companies active in this market segment estimate that around 30% of Polish municipalities have already modernised their street lighting. This still leaves a significant investment potential. The reasons behind the decrease of the investment volume in this sector that has been observed in recent years are discussed in the section on barriers for development of ESCO services (provisions on public debt and issues connected with ownership of lighting infrastructure).

Energy renovation of public buildings constitutes the second area of investments in the public sector. It is characterised by greater complexity than the segment of street lighting.

Projects in energy renovation of buildings frequently have long payback periods. Low financial profitability of such investments (or their selected components) necessitates involvement of subsidies or grants from public funds. However, it is currently impossible to combine subsidies with the ESCO mechanism. Such a combination would force more efficient public funds management – subsidies could be lower than currently and an EnPC would guarantee that energy savings are achieved.

As far as thermal renovation of buildings and heat supply to buildings are concerned, the space for ESCO services is rather limited due to availability of subsidies and lack of possibilities to combine them with ESCO contracts (see the section on barriers for development of ESCO services). Investments

in reduction of electricity consumption are not very common among local authorities. Integrated services for energy optimisation in public buildings within public private partnership constitute one of development perspectives for ESCOs. Such a project, including thermal renovation, modernisation of heat sources and replacement of lighting, is currently implemented by Siemens in Radzionków.

Recently, local authorities have been utilising the opportunity to reduce their electricity costs by organising group tenders for electricity purchase. This results from the growing pressure to decrease budgetary expenses. In such tenders clients can obtain more favourable tariffs, which provides a simple solution for decreasing fixed budget expenses. Public units that decide to participate in such a tender should also identify and implement measures that optimise electricity consumption. The authors believe that this area (i.e. combination of tenders for electricity purchase with investments in energy efficiency improvements) constitutes a promising perspective for development of ESCO services.

➤ A large international company operating as an ESCO is planning investments under the EPC mechanism at the level of EUR 5 million annually (mainly in the public sector).

➤ Wrocław (633,000 inhabitants), Częstochowa (238,000 inhabitants) and Płock (126,000 inhabitants) are considering modernisation investments under the ESCO mechanism. The value of the project in Wrocław ranges between several and around ten million EUR.



Industry

ESCO representatives tend to agree that large industrial units offer the most considerable investment potential in EnPC. The large scale of ESCO services and the short payback period make these projects attractive to ESCOs as well as their clients. Moreover, decision makers in this sector focus on achieving tangible financial profits, which favours rational arguments for applying the ESCO mechanism. In other sectors (the public sector, residential buildings) decision making processes depend also on other factors than purely economic ones.

Construction of electricity generation units with gas turbines (small CHP) or expansion turbines in existing steam systems constitutes a frequently implemented type of projects in this sector. Installation of equipment for adjusting and improving energy quality under a mechanism similar to ESCO (lease or quasi leasing) is also applied by ESCOs.

➤ A large metallurgical concern is considering investments under EnPCs. Potential total value of all the investments amounts to around EUR 25 million annually.

➤ A large company from the sugar sector is planning investments under EnPCs amounting to EUR 2,5 million annually.

➤ A production and sales concern is planning to invest EUR 0,5-1 million in increasing efficiency of electricity utilisation in its retail chain.



Heating

The heating sector also constitutes an interesting area for some ESCOs. Dalkia Polska has undertaken dynamic measures in this sector. It offers among other things services in modernisation of heat sources in order to reduce energy consumption (with 50/50 division of profits from energy savings). A number of Polish ESCOs is also active in this sector (e.g. POE ESCO sp. z o.o. from Krakow).

ESCO representatives argue that replacement of fuel oil or liquid gas boilers with biomass boilers is becoming an attractive sector for ESCO activities. High operation costs for fuel oil and liquid gas boilers constitute an incentive for such investments. On the other hand, the unstable biomass market acts as a barrier for more dynamic development of this segment.



Commercial buildings

ESCO representatives claim that using ESCO services is not very common in the sector of commercial buildings. Although this results from various market-related reasons, there are two most frequent scenarios. Property lessees obviously do not want to invest in infrastructure that does not belong to them. Property owners, on the other hand, are not interested in such investments as they do not bring direct benefits for them (owners do not cover utility costs). Property owners may also

prefer to implement such investments on their own, without third parties. Nevertheless, some companies that optimise energy costs offer their services also in this sector (Cofely GDF Suez, Dalkia Polska), also under EnPCs.



Multifamily residential buildings

Multifamily buildings can be divided according to their management and ownership structures into several sectors: housing cooperatives, housing communities, council buildings, private buildings, social housing associations. Each type of buildings has its own management (decision making) structure and needs. The sector of residential buildings does not have almost any access to EU subsidies, therefore, its interest in the third party financing is increasing. Subsidies under the thermal modernisation and renovation premiums constitute a competition for ESCOs.

The main investment types include: modernisation of central heating and domestic hot water installations, construction of new domestic hot water installations that replace bathroom water heaters, modernisation of heat transfer stations, modernisation and replacement of heat sources.

Such investments are the most common in housing cooperatives and housing communities. They are rather rare in council buildings. Social housing associations constitute a new management form and their buildings are also rather new. There are, however, some projects in replacement of heat sources for fuel oil, as they have high operational costs. Buildings of social housing associations are low-cost structures, often characterised by savings at the investment stage.

Other sectors

Other sectors, in particular small and micro enterprises and households, remain outside the main ESCO involvement. ESCO representatives argue, however, that clients from these sectors (e.g. bakeries, craftsman's workshops) are increasingly interested in low-cost projects with short payback periods (reactive power compensation, lighting replacement, installation of equipment reducing energy consumption, etc.).

ESCO market should also account for sectors gathering small but numerous clients.

CECEED wants to implement measures that will instigate and aggregate activities performed by individual consumers through encouraging them to purchase household appliances with the highest energy classes. It is planning to develop a system for obtaining white certificates (energy efficiency certificates) and subsidise purchase of such equipment with them.



List of potential ESCO projects¹

Name	Estimated value	Status
Modernisation of heating, water and electricity installations in a municipal hospital.	PLN 3 million (EUR 750,000)	Preliminary concept developed, waiting for the publication of the tender (March or April 2012).
Energy efficiency programme in Częstochowa (238,000 inhabitants).	From a dozen to several dozen million PLN (several to over 10 million EUR)	For several years now Częstochowa has conducted intensive administrative, training and low-cost activities in this respect. Information about possibilities for applying an ESCO mechanism based on press materials.
Optimisation of process steam utilisation through installation of an expansion turbine with a generator in a food processing plant.	PLN 3 million (EUR 750,000)	Concept plan, preliminary talks, decisions on initiating project design work expected in the second quarter of 2012. Implementation in 2013/2014.
Construction of local CHPs based on gas turbines of 1-2 MW (food processing).	PLN 3-5 million (EUR 750,000-1.25 million)	Concept plan, preliminary talks, decisions on initiating project design work expected in the second quarter of 2012.
Construction of local CHPs based on gas turbines of 4-6 MW (extractive industry).	PLN 10-15 million (EUR 2.5-3.75 million)	Concept plan, preliminary talks, decisions on initiating project design work expected in the second quarter of 2012.
Optimisation of process steam utilisation through installation of an expansion turbine with a 700kW generator.	PLN 4 million (EUR 1 million)	Signed agreement. Project design work almost finished. The turbine has been ordered. Implementation should be finalised by the end of 2012.
Construction of modern heat transfer stations in 30 buildings belonging to a housing cooperative.	n.a.	Project design work in progress. Implementation in the second quarter of 2012.
Building modernisation programme in Wrocław (633,000 inhabitants).	From a dozen to several dozen million PLN (several to over 10 million EUR)	The tender for an expert responsible for preparation of the programme has been completed. Based on research and analyses, a group of buildings will be selected for energy consumption optimisation under the ESCO mechanism.
Optimisation of heat sources in buildings of a social housing association.	PLN 2-3 million (EUR 500,000-750,000)	Preliminary talks. Implementation in 2012/2013.
Implementation of ESCO contracts by a large metallurgical concern.	Total project value – PLN 100 million (EUR 25 million)	Preliminary talks.
Implementation of several dozen smaller and around five larger EnPCs in the industrial sector by a large player on the ESCO market.	Small projects: up to PLN 2 million (EUR 0.5 million) each Large projects: PLN 5-50 million (EUR 1.25-12.5 million) each	Various stages of progress (some projects already have technical documentation, while others are still on the stage of preliminary talks or contract negotiation).
A company from the sugar industry is planning modernisation projects under the ESCO mechanism.	Total value of projects: PLN 10 million (EUR 2.5 million)	Preliminary talks.
A large company dealing with street lighting has identified projects in around 20 municipalities (with potential energy savings of 30-40%).	Several dozen million PLN (around 10 million EUR) – value of each project PLN 1-4 million (EUR 0.25-1 million)	The company's management claims that these projects should be considered as "frozen". Local government units are ready to publish tenders for implementation of these projects, but they do not want to increase their debt.

¹ This information was collected by IEE and KAPE during interviews with representatives of ESCOs and companies that are planning to enter into EnPCs. Due to commercial secret, company names have not been disclosed.

Preliminary recommendations on the functioning of the ESCO Fund

ESCO representatives that participated in interviews indicated that the ESCO Fund could play a significant role in stimulating the development of the ESCO market in Poland. Interest of ESCOs in the Fund will depend on the construction and parameters of this financial product.

This section presents preliminary opinions presented by the respondents participating in the focus group interview and individual interviews:

- ↘ The definition of ESCO projects should be slightly extended under the ESCO Fund, in particular with respect to clients from commercial sectors, in order to enable support for these investments on the business-to-business market that currently are not performed under regular ESCO contracts.
- ↘ Procedures that regulate the operation of the ESCO Fund should be as simple as possible.
- ↘ The ESCO Fund should consider granting promissory notes for ESCOs containing promise to purchase receivables (to support ESCOs creditworthiness in applying for short-term loans to commercial banks).
- ↘ The ESCO Fund should provide support also for projects with a payback period of over 10 years, in particular in the public sector.
- ↘ In 2007-2010 public sector units successfully conducted many tenders for modernisation of street lighting where a contractor (e.g. an ESCO) was obliged to indicate in its bid the financial institution that would purchase from the municipality the invoice for modernisation and the price for which it would do it. The factoring product offered by ESCO Fund should therefore account also for such situations.
- ↘ In practical terms, Polish banks do not offer factoring services for receivables with the payback time of over nine months. For example, in 2011 POE ESCO tried to sell receivables from budgetary subjects with the total value of over PLN 1 million and the remaining payback period of 2-3 years. None of the approached banks (Raiffesisen, Nordea, Deutsche Bank PBC) nor the Fundacja Komunalna responded to the request for offers.
- ↘ ESCO Fund offer should contain products that are structured and valued depending on the situation: type of client (public, commercial), valuation of factoring prior to ESCO's offer or e.g. after one year of payments, after 50% of payments, etc.
- ↘ The ESCO Fund has to present financial parameters and ensure fast valuation of factoring so that an ESCO is able to prepare its offer for the client within the deadline specified in the public procurement law.
- ↘ ESCO Fund should offer technical assistance and promote EnPC (in particular with regard to public sector).

Barriers on the ESCO market

In 2011 IEE conducted in-depth interviews with representatives of eight institutions that undertake ESCO-related initiatives or plan activities in this area. The interviews served as a basis for analysing the current situation on the ESCO market and identifying barriers that hinder its development.

Some identified barriers refer to the whole market while others to its respective segments (e.g. street lighting, public buildings). Barriers in the public and private sector are to a certain extent different. Most of the respondents agreed that low recognisability of ESCO services and lack of appropriate legislation constitute the main factors impeding growth of this market.

large >

barrier

< small

- Lack of legislation on ESCO
- Poor recognisability of ESCO services
- Exclusion of ESCO from subsidised projects
- Lack of understanding of the ESCO mechanism among clients
- Undemanding norms on energy efficiency
- Low ESCO competitiveness compared with other forms of financing
- Low demand for energy efficiency investments
- Lack of necessary know-how



Barriers in the public sector

street lighting and energy efficiency in buildings

Barrier type	Market segment	Comments
Lack of legal regulations	Street lighting, public buildings	Lack of legal regulations that define ESCO contracts constitutes a significant barrier. ESCO representatives argue that officials are concerned whether this form of contracting is legally allowed in the public sector (there are concerns that control bodies will question it).
Unfamiliarity with the ESCO contracting	Street lighting, public buildings	ESCO representatives claim that EnPCs have low recognisability among public administration bodies.
Public debt	Street lighting, public buildings	Some ESCOs and local authorities claim that ESCO contracts increase municipal debt. They argue that the Regulation of the Minister of Finance of 2010 ¹ brought ESCO investments in the public sector nearly to a standstill (especially in street lighting). It should be noted, however, that public private partnership enables implementation of EPCs without increasing the debt level of a particular local government unit ² . It would be worthwhile to develop guidelines for local government units on definition and allocation of risk under EnPCs.
Ownership issues	Street lighting	A lot of lighting systems in Poland (casings, poles, networks, control mechanisms) are owned by energy utilities. These subjects also sell electricity and maintenance services. Replacement of old lighting with modern and energy efficient solutions, which leads to reduction of energy costs, goes against the interest of such companies. They use their monopolistic position to impose on municipalities difficult conditions for conducting modernisation work (which in many cases finishes with a court case).
“Ownership” of energy savings	Public buildings	If energy renovation investments are conducted in public buildings (e.g. schools or offices), generated profits from energy savings do not stay in the budget of a particular unit. Instead, in the following year the budget for energy costs in these units is reduced (it is adjusted to the level after modernisation). This discourages managers of these buildings from reducing energy consumption and leaves them without funds to pay for the performed ESCO services.
Competition from subsidies	Public buildings	Subsidies available for thermal renovation of public buildings in practical terms eliminate the possibility of ESCO co-financing. High subsidy rates discourage local government units from using other forms of financing. If co-financing of such projects with subsidies is decreased and ESCO co-financing is allowed, allocation of public funds will become more efficient.
Reluctance to PPP	Street lighting, public buildings	Public private partnership has been unpopular among local government units for many years. Only recently interest in this mechanism has been increasing. Institutional capacity of Polish local government units to use this form of project financing needs to be increased (contracting, risk identification and allocation, etc.).

1 Regulation of the Minister of Finance on detailed classification of debt items that are included in the state public debt.

2 According to the official position of the Ministry of Finance, the question whether a particular financial obligation under a PPP project is counted as public finance debt or not depends on the interpretation that results from the decision of Eurostat No 18/2004. According to this decision, “assets involved in a PPP should be classified as non-government assets, and therefore recorded off balance sheet for government, if both of the following conditions are met: (1) the private partner bears the construction risk, and (2) the private partner bears at least one of either availability or demand risk”.



Barriers in the private sector

industry and SME

Barrier type	Market segment	Comments
In-house implementation of projects	Industry, SME	Low-cost investments or projects with a short payback period are frequently implemented by industrial units and SME on their own, without a third party. Investments with longer payback periods are not so attractive for ESCOs. Purchase of long-term receivables by the ESCO Fund could stimulate this area of investments.
Reluctance among company's engineers (chief energy engineers, process engineers)	Industry	In particular in large industrial facilities, engineering staff responsible for energy management is reluctant to allow for external intervention into industrial processes. They are also afraid that consultants' work may undermine their professionalism (or lack of thereof).
Energy savings may account for a small part of operational costs	Industry, SME	In such cases even relatively high financial profitability may fail to act as a sufficient incentive.

Barriers in housing sector

Barrier type	Market segment	Comments
Decision-making processes	Housing cooperatives, housing communities and social housing associations	Complicated decision-making structures (inhabitants, supervisory boards, managements) impede implementation of more complex ESCO projects.
Competition from subsidies	Housing cooperatives and housing communities	Wide availability of a thermal modernisation premium encourages to use this form of financing. This offer is competitive with respect to ESCO services.
Competition from banks	Housing communities	Within promotion campaigns some banks offer very attractive loans for thermal modernisation (e.g. payback period of 19 years, 1% commission, a fixed part of income from rent is used as a loan security).



List of companies offering ESCO services

Nr	Nazwa firmy	Strona www	Sector
1	Aesco Sp. z o.o.	www.aesco.com.pl	Various sectors
2	Agrocent Sp. z o.o.	www.agrocent.pl	Heating
3	AL ENERGIA Polska Sp. z o.o.	www.alenergia.com	Heating
4	AM PRED A Jacek Walski	www.preda.pl	Heating
5	BiznesPro Sp. z o.o.	www.biznespro.pl	Micro CHP
6	Bricks & Bits Sp. z o.o.	www.bricks-bits.com.pl	Energy efficiency in buildings
7	Ceced Polska	www.cecedpolska.pl	Association of domestic equipment manufacturers The concept of establishing an ESCO
8	Clima Heat Sp. j.	www.climaheat.pl	Heating
9	CZE Eltast Sp. z o.o.	www.eltast.pl	Lighting
10	Dalkia Polska S.A.	www.dalkia.pl	Heating, energy supply and management
11	ECO Malbork Sp. z o.o.	www.ecomalbork.pl	Heating
12	ECO S.A.	www.ecosa.pl	Heating
13	Edison Polska	www.edisonpolska.com	EnPCs in various sectors (industry, business)
14	ENEKO Sp. z o.o.	www.eneko.com.pl	Sewage treatment
15	ENERGA S.A.	www.energa.pl	Energy generation and distribution, heating
16	Energy Saving Solution Enterprise	www.esse.eu	Lighting
17	EPC S.A.	www.epc.pl	Concept plans for electricity facilities
18	ESCO Project Roman Dębowski	www.escoprojekt.pl	Lighting
19	ESKO Przedsiębiorstwo Inżynierii Środowiska S.C.	n.a.	Water supply and sewage collection systems
20	ES-SYSTEM S.A.	www.essystem.pl	Lighting
21	FENICE Poland S.A.	www.fenice.com.pl	Energy generation and distribution, heating
22	HYDROCHEM DGE S.C.	www.hydrochem.pl	Heating
23	Led Holding S.A.	www.ledholding.eu	Lighting
24	Maraini Sp. z o.o.	www.marani.pl	Compressed air
25	Przedsiębiorstwo Oszczędzania Energii ESCO Sp. z o.o.	www.esco.krakow.pl	Various: energy efficiency in buildings, lighting, industry, heating, CHP
26	RWE Polska Contracting Sp. z o.o.	www.rwe.pl	Heating
27	Ryszard Śnieżyk	www.rsniezyk.pl	Heating
28	Siemens Sp. z o.o.	www.siemens.pl	Energy efficiency improvement in buildings
29	TERMOEXPERT Sp. z o.o.	www.termoexpert.com.pl	Buildings

*Green lines indicate companies that have participated in the meetings of the ESCO Club



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