

ESCO schemes in renovation

ESCOs (energy service/savings companies) are companies that implement/organize energy efficient interventions and provide a performance guarantee for them. As the EU's Energy Services Directive (2006/32/EC) says: an ESCOs is a 'natural or legal person that delivers energy services and/or other energy efficiency improvement measures in a user's facility or premises, and accepts some degree of financial risk in so doing. Payment of provided services (in total or partially) is based on reached energy efficiency improvements and fulfilment of other criteria agreed upon regarding these targets.'

ESCO companies may provide energy, in which case they guarantee the quality and the price of energy; or they may provide energy efficient renovation, in which case they guarantee the level of savings – in financial terms or in kind. If the ESCO service is based on providing renewable energy sources, it is called a RESCO (Renewable Energy Service Company).

ESCO schemes can be quite different; however, they may be grouped into two major categories:

- Energy Supply Contracting (selling useful energy MWh), in the case of which an entity takes over the energy supply from the regular supplier (or the regular supplier, which can be the CSO community itself as well, outsources the service) and promises to provides better and/or cheaper services with the application of new technologies like district heating, new boilers or other primary energy solutions. The basis of the monitoring and the payment is the amount of energy sold. The client pays a fixed fee, which is, in most cases, lower than before. (If there is no significant renovation of the energy sources, but the service provision is taken over by a company, the service is called 'chauffage'.) If a supplier designs, funds, owns and operates a specific installation (usually a central heating plant or other energy production facility) for a certain period and asks a fixed fee for it, than the scheme is called 'BOOT'.
- Energy Performance Contracting (selling energy savings) is based on physical interventions on the building that result in lower energy consumption. An ESCO company is responsible for the planning and implementation of the energy efficient interventions (that may include e.g. insulation of the building, changing windows, improvement of the engineering system and installment of new energy sources). In several cases the ESCO company may also be the funder and the operator of the interventions. The company provides a guarantee on the savings for an agreed period of time – compared to the baseline consumption before the interventions. There is a possibility to negotiate on what happens with the savings – or with the net savings after paying for the financial obligations. For example it can be shared between the CSO and the ESCO company by a pre-set percentage – but the percentage should be in line with the pre-defined risk shared.

The advantages of the Energy Performance Contracting scheme (as opposed to the regular energy efficient renovation interventions implemented and operated by the CSOs themselves):

- The ESCO company provides full service for the costumer thus there is no need to have proper technical and financial information at the CSO. The management of the CSO also does not need to spend time and energy on seeking for the proper contractors. The ESCO offers one-stop-shop service in which the CSO is connected to a limited number of persons. However – if the CSO requires –CSO members can also be trained to take some part in the operation services on the long run and thus can be educated to be its own ESCO company (community ESCO).
- ESCO companies are able to provide complex renovation interventions and thus look for optimized technical solutions in which the components support on another and result in holistic solutions. The ESCOs can include into the optimization process not only the physical interventions but the operation process as well.
- As ESCO companies take some part in the development risks and provide guarantee on the performance, they have inherent interest for the quality of the project in the long run.

- If the ESCO company provides financing, it can help solving the cash-flow difficulties of the client. (This scheme is usually used in larger projects and with bigger ESCO companies.)
- If the client provides the financing, the performance guarantee provided by the ESCO can help the client get a commercial loan with more favorable conditions.

The important points to consider:

- There is an information asymmetry between the client and the ESCO company – as the lack of knowledge at the client's side is the reason for the ESCO contract. So there is a need to create contractual conditions according to which the client is able to control the activity of the ESCO.
- ESCOs tend to underestimate the energy savings in order to be on the safe side when guaranteeing the performance. Thus there should be clear rules of sharing the benefits of extra savings.
- There is a need for constant feedback on the consumption (there are already technical possibilities available to measure the consumption constantly). This helps on the one hand to control how the ESCO company optimizes the energy system, and also helps to influence the behavior of the individual residents in order to achieve the highest possible energy savings.

In an ideal case Energy Performance Contracting can turn into Integrated Contract Model, if not only the facilities of a building are improved, but also the facilities of the utility company that provides the energy. In this case the supply side can be adjusted to the demand side, which can create a higher level equilibrium. Mostly district level solutions can be created this way, into which more buildings belonging to the same energy source can be involved.