



# Streetlight-EPC

## Frequently asked questions on Streetlight EPC

### What is the meaning of...

- **ESCO:**  
Energy Service Company, specialised company that offers EPC services
- **ESCO client:**  
municipality/public body (or company) on whose installations an ESCO project is carried out
- **ESCO contract:**  
basis for the cooperation between ESCO and client, regulates rights and obligations for both parties, most importantly the achieved savings, the contract duration and warranty issues.
- **Quality assurance:**  
guarantees the agreed quality level of the ESCO's work (e.g. minimum savings, functionality of the system)

### Frequently asked questions

- **Which measures are typically implemented in a street lighting-EPC project?**  
Replacement of lamps, new control systems, system optimisation, retrofitting of poles, complete replacement of luminaires. Extending the street lighting system can be incorporated into the project, but can usually not be financed by savings.
- **What size of investment is typical?**  
In many cases, an investment of several tens of thousands Euro is the minimum, otherwise the cost of preparing the project (including setting up the contract) represents too large of a proportion of the savings. However, this strongly depends on the specific circumstances.
- **Which important provisions should the EPC contract contain?**  
Guaranteed savings and consequences if they are not achieved, respectively allocation of additional savings; contract duration; how the ESCO's fee is calculated; billing schedule; changes in energy prices; split of tasks between the ESCO and the municipality; ownership issues after the end of the contract; bankruptcy of a contracting party.



# Streetlight-EPC

- **What impact does the EPC project have on the municipality's staff?**  
An experienced ESCO will strive to integrate existing staff and service providers (e.g. local electrician) into the project. The EPC project might also result in new tasks for the staff previously in charge of some aspect of the street lighting system such as data collection, quality control, the implementation of the measures and the revision of annual accounts.
- **How time consuming is an EPC project for the municipality?**  
Careful preparation and development are crucial for the successful implementation of an EPC project. At the beginning of the project, all concerned staff should be involved in order to ensure transparency and acceptance by all parties. Good planning of the project and clear requirements for the ESCO in terms of quality criteria are required.
- **How are the reference costs (baseline) determined?**  
The "baseline" is the basis for calculating the ESCO's fee. To prevent that factors which are out of the ESCO's control (e.g. energy prices, change of operation times) act to its advantage or disadvantage, energy costs and energy consumption levels are compared to those of the reference year.
- **What happens at the end of the EPC contract period?**  
At the end of the contract period, the municipality can take back the ESCO's tasks and benefit from the lower energy costs. Of course, the contract may also be extended or amended.
- **What is better: implementing a project with EPC or using own investments?**  
Whether it is more advantageous to implement energy efficiency investments with or without EPC depends, among others, on:
  - the size of the project
  - the availability of investment funds and own staff resources
  - the financial conditions when purchasing lighting equipment
  - the technology in place

However, EPC has many advantages that the refurbishment using own resources does not offer. For example,

- with EPC, the savings are guaranteed, assuring the municipality of the financial outcome of the project.
- inadequate maintenance of the lighting system can lead to unachieved savings. By having the ESCO look after the maintenance of the system, the chances of actually achieving the expected saving are higher.



# Streetlight-EPC

It can be useful to combine smaller projects with other streets or projects.

- **How can the economic risk for the municipality be reduced in case the guaranteed savings are not achieved? Is a bank guarantee a good option? Or can this be incorporated in the regular payments from the municipality to the ESCO?**

There are several options to reduce the economic risk for the municipality in case the guaranteed savings are not achieved. For example:

- Foreseeing in the contract that the municipality's payments to the ESCO reflect the achieved savings. If the savings are lower than what was guaranteed, the municipality is allowed to reduce its payments to the ESCO accordingly.
- Using bank guarantees that the municipality can easily pull if the guaranteed savings are not achieved.

Monitoring the savings should be done and verified on a regular basis by someone in the municipality who is also capable of following up on the situation and taking relevant corrective action.

- **Which lamp best fits in my situation?**

Experts, including specialised ESCOs, can help identify the lamp that best fulfils the requirements on a technical level. Thereafter, it is recommended that municipalities visit, if possible, other refurbished installations in the region to see what the lights look like once installed. Another option is that municipalities start with test streets where they (or the ESCO) refurbish a few lights and see if they like the chosen model.

- **Are LEDs always the best option?**

ESCOs will strive to use the best technology available at the time of refurbishment. Refurbishing with a less efficient technology might help reduce the investment costs, but it also has disadvantages and risks. Although another technology might seem to offer an economic viable solution at the time of calculation, over the years, the forgone savings can be very significant. Also, one does not know how the price of electricity will evolve with time. Moreover, this type of refurbishment creates a lock-in effect, blocking out very efficient technologies for many years to come.

Increasing the number of different lamps used in the refurbishment increases the challenge of maintenance (more types of lamps to maintain, have in stock, etc.). If



# Streetlight-EPC

the project is conducted with EPC and a competent ESCO, this is not necessarily a problem and various types of lamps are often used.

A possible solution for this situation would be to refurbish the street lighting in phases, according to available funds, instead of trying to refurbish the entire system at once.

- **Can we believe the technical information regarding life span of the luminaires?**

This depends on the supplier. It is best to have a reliable supplier. It is recommended to only purchase luminaires for which the life span is guaranteed. Clients should always ask for extended guarantees and supporting documents. It is also important to ask for the guarantees of all components (not only for the diode, but also for the driver, etc.). It can also be specified in the tender/contract that the equipment needs to fulfil respective EU standards.

One advantage of EPC is that the ESCO is responsible for the proper functioning of the equipment and for the replacement of any defective parts during the EPC contract duration. In the contract, one can also specify in how much time a defective part needs to be replaced (e.g. within a week).

After the end of the EPC contract, one option is to develop a maintenance contract where the ESCO remains responsible for the well-functioning of the system.