

The Energy Performance Contracting Concept for Camp Lighting in the EU Defence & Security Sector

Pilot design and development of an “ESCO Lighting Project” application in three military facilities in Greece, Cyprus and Belgium (including a military hospital, an air base, and a camp) achieving the mobilisation of the investments to unleash the energy saving potential that lies within the large building stock of the defence sector.

Background Description

In many Member States infrastructure and related technical installations in the defence and security sector are often neglected, resulting in building stocks that are expensive to maintain and intensively energy-consuming. This negligence is, in most cases, budget-driven. In an era where defence budget is constantly decreasing, the available financial resources are invested in the core business of the military organisation, this being weapon systems, and not in improving buildings (or other energy-related investments).

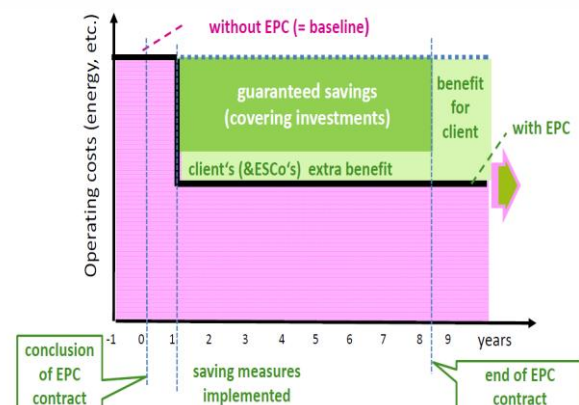
Within the defence sector, there are only very few examples of Energy Performance Contracts (EPCs) so far. Taking into account the exemplary role that the public sector is obliged to play as far as energy efficiency is concerned, but also the large building stocks of the Ministries of Defence (MoDs) and the restricted funds for deep renovations, it is evident that there is a lot of potential for energy savings to be capitalised upon/unleashed through the EPC business model.

For CY, EL and BE MoDs in particular, which are the Member States participating in the project proposal (pMS), this will be the first attempt to explore and implement the EPC business model.

Project Objectives

The use of EPC is growing in the European Union (EU) with a number of public sector organisations having already successfully implemented projects and more planning to undertake them. EPCs have been delivered across a wide range of building types and different sectors including local authorities, schools, higher education and universities. However, the energy saving potential stemming out of the EPC business model has not been exploited within the defence sector.

The objective of this project is to test (i.e. develop and implement) EPCs in selected installations of the pMS with a view, upon successful outcomes, to apply the relevant business model on a larger scale in the future.



A Budget Neutral Approach to Upgrading Military Infrastructure

- Energy Conservation Interventions;
- Measurement and Verification;
- Energy Service Companies (ESCOs) acting as project developers for a comprehensive range of energy conservation measures;
- Budget neutral approach with guaranteed savings.

Drivers

- Large military building stock;
- Large energy saving potential;
- Investment security.

Benefits

- **BUDGET NEUTRAL APPROACH** that lowers operating expenses and minimises energy use;
- **GUARANTEED SAVINGS** based on measured and verified energy savings;
- **IMPROVEMENTS IN BUILDING SECURITY:** reduced energy production, distribution and consumption costs;
- **IMPROVEMENT IN ENERGY PERFORMANCE OF MILITARY BUILDINGS** as a result of a wide range of energy conservation measures including lighting, HVAC (heating, ventilation, and air-conditioning) control, boilers and chillers, windows water conservation, building envelope, etc.

Challenges

- **M&V LIMITATIONS:** measurement and verification of the energy savings is a common friction point between the client and the ESCO;
- **SHORTAGE OF SKILLED PERSONNEL:** pMS will require to set up a management team that will have a clear understanding of the technical aspects;
- **COMMUNICATION:** the difficulty in communication between multiple stakeholders across the different professional sectors involved in an EPC;
- **LEGISLATIVE ISSUES:** EPC is hindered by bureaucracies and legislative issues that resist large-scale programme implementation in the face of executive and legislative mandates;

Opportunities

The project is eligible for potential funding at the European level, for instance, through the European Regional Development Fund (ERDF) and the European Social Fund (ESF).

Project Idea & Scope

The EPCs provide a way for the private sector to finance energy savings projects in the sectors of defence and security. EPC is a contract type through which an Energy Service Company (ESCO) designs, finances, acquires, installs, and maintains energy-saving equipment and systems for a public authority (or a private company). EPCs allow the property owners to procure energy savings and facility improvements with no upfront capital costs.

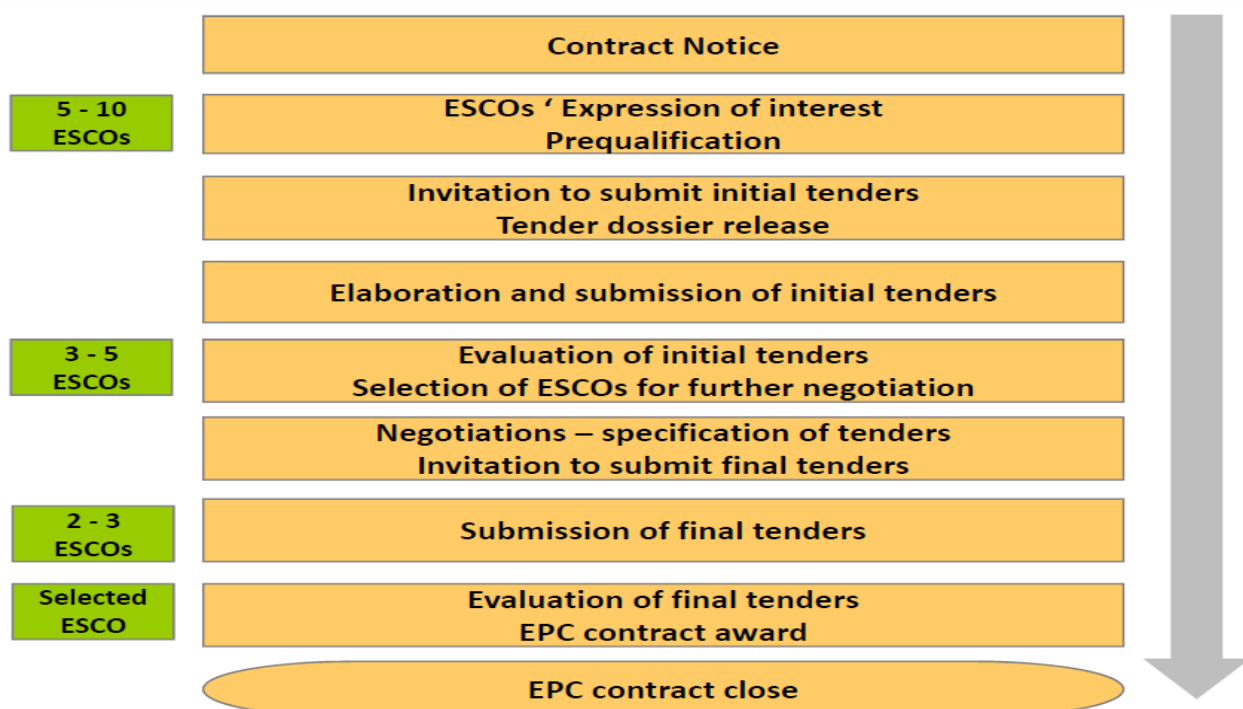
To ensure replication of the developed energy solution, a coherent approach will be created and three case studies will be examined, including in Greece (military hospital application), Cyprus (military camp external lighting application) and Belgium (military camp external lighting application).

Project Development Phases

- Feasibility studies;
- Energy audit;
- Contract negotiations;
- Implementation phase;
- Acceptance phase;
- Performance period;
- Ongoing operations and maintenance phase;
- Measurement and verification (M&V);
- Project close-out;
- Post-project operations and maintenance.

Expected Outcomes

- Deliver/implement/carry out a feasibility study for one pilot project;
- Increase dissemination of ESCO services and projects;
- Launch an accreditation system for ESCOs;
- Develop financing sources;
- Standardize contracts and M&V;
- Promote EPC in military buildings;
- Develop a Europe-wide network to accelerate investments in energy efficiency in the military sector.



The Way Ahead



- Project Concept Note
- Proposal to EDA
- Consultations with National Partners
- Presentation of the full proposal during the next Consultation Forum
- Preparation of the full Proposal Fiche

This project idea was developed during the second phase of the Consultation Forum for Sustainable Energy in the Defence and Security Sector (CF SEDSS II) and does not entail any future commitment for the EU Ministries of Defence (MoDs) or the EU institutions or agencies. However, it provides the framework for enabling the formation of multi-national collaborations at the European level to help the MoDs to address common defence energy-related considerations and to move towards a defence decarbonised future. The potential of those ideas will be further explored in the context of the forthcoming CF SEDSS Phase III (2019-2023).