

Implementation of Energy, Water and Waste Management Systems (Military Energy Stars)



Background Description

The level of maturity of the activities of the EU Ministries of Defence (MoDs) and the armed forces in energy, water, and waste (EWW) management is still at an early stage. Energy management is still not aligned with key organisational objectives. Military energy strategies and actions plans are not yet designed, and there is no active energy management in military units. The same argument is valid and applicable to water and waste management. Military units do not have proper management systems installed.

Overall, energy management infrastructure (energy meters, sub-meters, communicators, and IT based energy management / monitoring systems) are outdated and do not comply with the existing needs. In addition, the competency levels of military personnel responsible for energy management are still low and the benefits coming from improved energy management are still weakly perceived. Also, the level of interaction, such as sharing of good practices and lessons learned is still rather moderate.

Objectives

The objectives of the project are as follows:

- To design and install the EWW management systems to gain control over the energy management and achieve energy savings in the range of 10-20 percent;
- To become an exemplary model in energy management (quality of the systems, competent personnel, tangible and visible results in energy consumption reduction);
- To prepare the dedicated military units for further energy transition (towards renewable energy generation) through long-term planning and high level of execution readiness.

Project Analysis

The scope of the project is to analyse the present status of military energy management at selected military units at project partners locations. Based on such analysis, the project aims at designing and adopting tailored EWW management systems applicable to military energy management. This activity is of transnational character and the participating Member States (pMS) will explore the issues of transferability and alignment among their military forces.

The project will ensure the implementation of the confirmed EWW management systems at project partner sites/locations. EWW hardware and software solutions (meters, sub-meters, data collection and data analysis solutions) will be selected and installed at partners locations with to prepare such solutions for open access to other stakeholders.

The project also targets the test of the implemented systems in real time (minimum 3-month testing; optimal – 6-month testing) and, accordingly, the necessary changes and improvements. The pMS of the project also strive for training and possibly certifying dedicated personnel.

Further activities of the project include:

- running pilot demo sessions for stakeholders and interested parties;
- communicating key project deliverables to stakeholders and organising a conference to showcase the key outcomes of the project;
- preparing good practice/recommendations report available for key stakeholders; and,
- establishing and developing the network of military energy management practitioners and experts.

Impact – Expected Outcomes

After the implementation of such a project, the following deliverables are planned:

- Adequate EWW strategic planning document (strategies and strategy execution plans) will be prepared. The strategies will be directly linked with execution. The key initiatives for change will be identified;
- Partners will have the dedicated energy management systems installed (based on ISO 50001 or similar PDCA approaches);
- Partners will have EWW metering, data collection and monitoring systems (meter, and sub-meters, communicators and IT solutions) installed for command and control purposes. The novel solutions tailored to military needs will be tested;
- The military personnel responsible for EWW management will be appointed and properly trained and certified;
- The demo solutions will be designed in order to meet the external stakeholder needs;
- Partners will benefit from the established international military energy network.

Opportunities

There is a great opportunity for project members to achieve tangible results.

Challenges

Key challenges are related to the multinational character of the project (at least 5 project partners need to take part in this project).

Methodologies

Key methodologies are based on the Plan-Do-Check-Act approach (ISO 50001:2018 standard).

Way Ahead

It is expected that after this project the Project members will continue the cooperation in achieving the military energy transition towards green and sustainable defence. In order to fully exploit the advantages of implemented EWW Management System, artificial intelligence methods and systems together with big data analysis solutions will be designed and implemented.

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).