guarantEE
Building Energy Services in Europe

Model processes for combining Energy Performance Contracting (EPC) with other energy-related actions

guarantEE

Deliverable D2.7

Horizon 2020

Grant Agreement No. 696040

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 696040.

1 Introduction

Some specific challenges are not included in standard EPCs. Therefore, solutions in the form of model processes have been developed within guarantEE for two specific cases. In the case where a client has to fulfil energy management / energy audit requirements (according to EED) parallel to an EPC project, or even more, the client is engaged in an ISO 50001 process, synergies can be exploited and decrease the total project costs. This two cases leading to synergies between EPC and energy management / energy audit requirements are being described in this document.

The following activities are being performed by a contractor in EPC projects that are at the same time standard activities of an energy audit or of an ISO 50001 certification process:

- System data acquisition (analysis of the current state)
- Data acquisition and evaluation of historical energy consumption
- Definition of key performance indicators and threshold values
- Energy monitoring: monthly and/or annual collection and evaluation of energy consumption

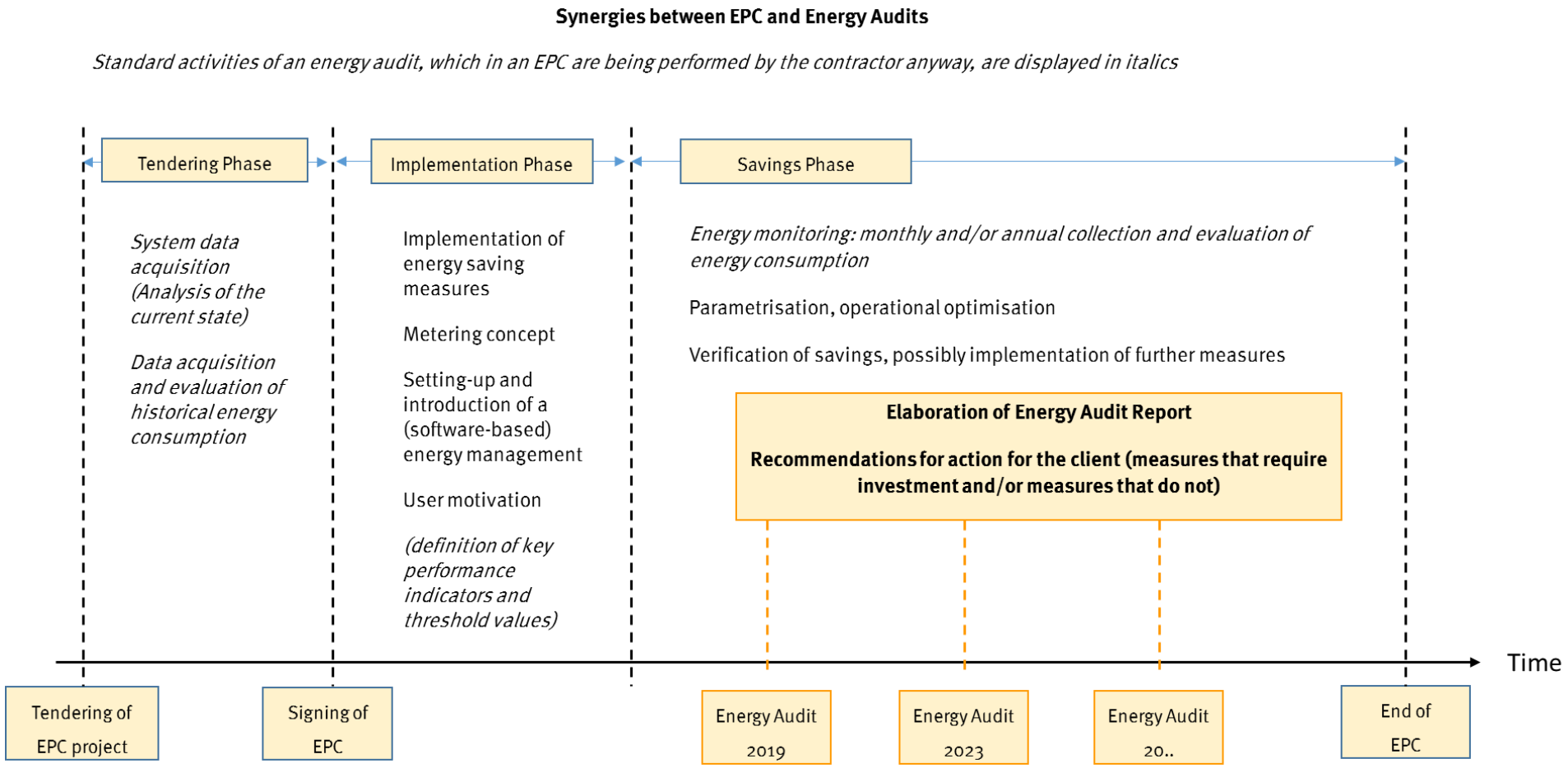
2 Synergies between EPC and Energy Audits

Experience of the 2015 audits shows that approx. 50% of the auditor's effort is for energy data collecting in the consulted companies. If an ongoing energy monitoring is established in EPC client facilities for verification of achieved savings (M&V), most of the data required for the energy audit will be readily available for the auditor. Thus, in a combined service of EPC and energy audits several periodical audits can be offered at a price (almost) equal to the price of a single energy audit of high quality.

In the context of the energy monitoring and the energy audits, the client will receive additionally recommendations for energy saving measures (ESM) of which some may need investments and some may not. See diagram in section 2.1 for more details on the EPC and energy audit model process.

This principle also works vice versa leading to synergies between an Energy Audit already performed and EPC. Data acquisition, analysis and evaluation from an existing Energy Audit decrease the effort in the EPC tendering phase.

2.1 Synergies between EPC and Energy Audits



3 Synergies between EPC and ISO 50001

If an EPC client aims to implement an energy management system according to ISO 50001, the preparation of the certification can be offered as an additional service by the ESCO. Objective of an energy management system (EMS) is the proactive, organized and systematic coordination of procurement, conversion, distribution and use of energy to meet the requirements, taking into account environmental and economic objectives.

If an ongoing energy monitoring is established in EPC client facilities for verification of achieved savings (M&V), parts of the existing infrastructure and available energy data could be the fundament for the design of energy policy, energy action plan, implementation and operation, performance audits and management reviews and though decrease the costs of ISO 50001 implementation. See diagram in section 3.1 for more details on the EPC and ISO 50001 model process.

This principle also works vice versa leading to synergies between an existing EMS and the implementation of an EPC. The efforts in the EPC tendering and saving phase decrease significantly due to energy monitoring and availability of historical energy consumption data.

3.1 Synergies between EPC and ISO 50001