



europaean energy  
service initiative 2020



# Energy Performance Contracting

**Customer Handbook**

# What

## Energy Performance Contracting

# can do for you

When you are a building owner (public or private), Energy Performance Contracting (EPC) can help you to

- Modernise the technical systems of your buildings through a specialised Energy Service Company (ESCO)
- Bring a new model to install energy efficient measures and the possibility of funding through the future benefits
- Enjoy guaranteed cost savings through reduced energy consumption with no or little own investments
- Strongly reduce the CO<sub>2</sub> emissions of your buildings



# Who is the EPC for

## Public administrations

governmental institutions, regions, municipalities and their contributory organizations

- Financed from the state, regional or municipality budgets
- EPC projects usually require approval by state authorities or regional and municipal councils
- Buildings and facilities of all institutions and organisations established by individual ministries, regions and municipalities:
  - faculty hospitals
  - universities
  - cultural facilities and administrative buildings
  - medical facilities and hospitals
  - educational institutions (kindergartens, primary and secondary schools)
  - sports facilities (swimming pools, ice stadiums)
  - office buildings, etc.

## Private customers

non-commercial and commercial sector

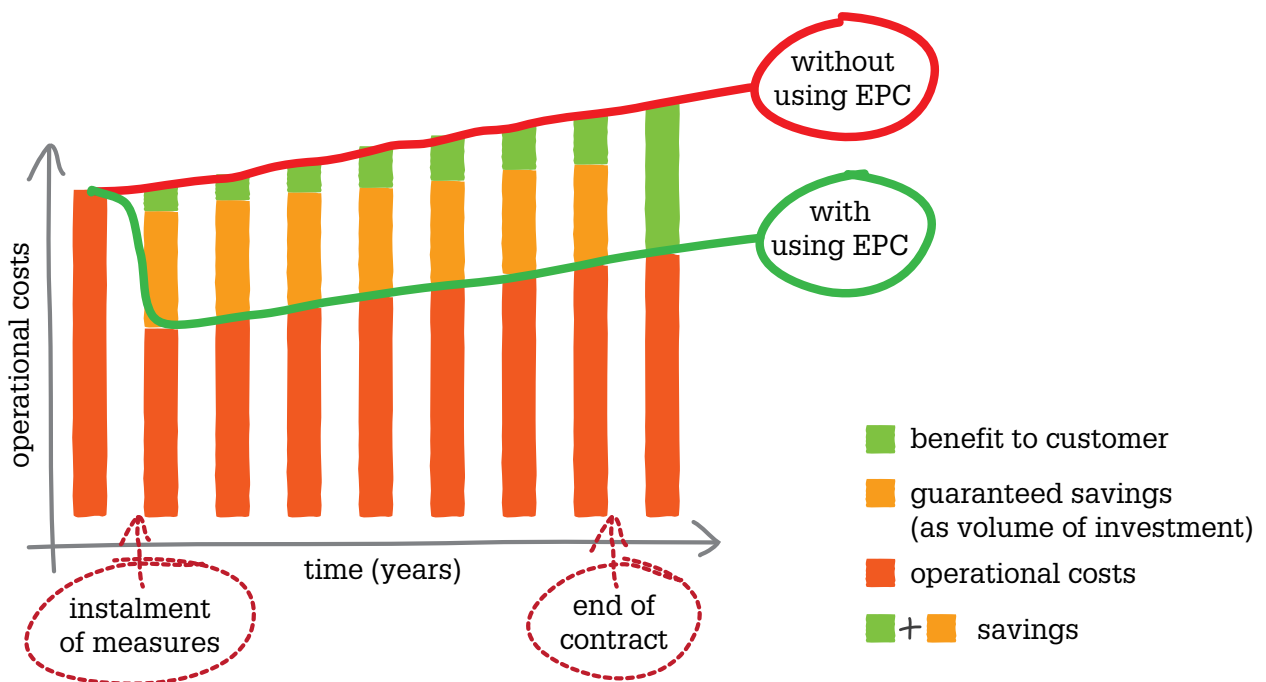
- Companies and buildings in the private sector:
  - manufacturing (industrial and other commercial use)
  - non-manufacturing (commercial buildings, private hospitals, office buildings, cultural facilities, etc.)



# What exactly is EPC?

EPC (Energy Performance Contracting) is the **provision of energy services with a guaranteed outcome**.

- EPC is founded on the following key principle: All saving measures are **financed from the resulting savings** with no additional costs.
- The entire project is delivered by a **single supplier** (Energy Service Company / ESCO) and the supplier assumes most of the related financial and technical risks (only one face to the customer).
- Energy and operating cost **savings are achieved gradually based on guarantees established in the contract** (no risks through guarantees).
- EPC is generally **suitable for those buildings where energy consumption can be reduced** and where **reconstruction of the energy supply system is required**.



# Benefits

## of Energy Performance Contracting

- **Guaranteed success of the project** – the supplier provides a contractual guarantee of achieved savings and return on investment
- **Long-term reduction of energy consumption** and other operational costs
- A single supplier implements the project from start to finish:
  - Prepares project documents
  - Implements planned measures
  - Guarantees the extent of achieved savings
- **The supplier and the customer share the same motivation** – ensuring the optimal extent of investment with the highest possible savings
- Option of having the project financed by the energy service provider
- Improved comfort levels in your buildings
- Significant reduction of CO<sub>2</sub> emissions
- Outsourcing of risks



# How it works?

## Step 1: Preparation of the project

- Assessment and confirmation of economic and technical suitability of the EPC for the intended purpose (check of saving potential and estimate volume of investment)
- Selection of suitable buildings or equipments (creation of buildings pools)
- Involvement of an experienced EPC facilitator to support the process

## Step 2: Selection of supplier

- Public contracts for EPC projects are usually awarded through negotiation process with publication
- Definition of appropriate assessment criteria and completion of a range of input information for contract documentation
- Selection of supplier (also in the private sector)

## Step 3: Conclusion of contract

- Draft contract usually is included in the contract documentation
- Contracts on EPC are extensive, complex and balanced (great care must be taken)
- Major contract features:
  - Assessment of the initial energy consumption
  - Definition of the supplier's guarantee of target savings
  - Assessment of the method of operation for buildings or equipment

## Step 4: Project implementation

- Completion of project documentation
- Implementation of agreed energy saving measures
- Comprehensive testing of equipment functionality
- Training of operators for the installed equipment

## Step 5: Energy saving period; monitoring and assessment

- The supplier is responsible for effective operation of installed equipment
- Achieved savings are usually assessed annually
- Supplier commences monthly assessments of measured values and controls any discrepancies by detection operation or energy consumption
- The supplier is obliged to cover any difference between guaranteed and achieved savings

# Role of facilitator and how he can help

Experienced consultancy companies can be involved as facilitator by the client to support him in the preparation of the EPC project, the tendering procedures and in the project management:

- Drawing up all papers for contract
- Recommendations for technical and commercial targets
- Formal and technical co-ordination of tendering process
- Sound knowledge of the market to enable technical and economic appraisal and negotiation of the tenders
- Recommendation for award of contracts
- Project controlling





# Specifics of EPC projects in the public sector

- Assessing the suitability of EPC for the relevant building/s.
- Approval of the project concept by the relevant governing body in state sector or by regional and municipal council.
- It is recommended to discuss the future contractual relationship and the technical requirements of the project with the client's relevant departments.
- Appropriate long-term contract for 8-15 years
- Very suitable for contributory organizations







# Specifics of EPC projects in the private sector

- EPC projects implemented by private companies usually involve individual technological segments rather than entire buildings / facilities.
- Loans provided by energy service providers to clients in the private sector normally need higher securities than projects in the public sector
- The maximum EPC contract duration in the private sector is 6 years, with most projects being shorter.



# What to watch out for

## **Involving an EPC facilitator for project management**

- EPC projects are complex. Projects must therefore be prepared very carefully. Enlisting the help of a specialised firm (as facilitator) is highly recommended.
- Access to professional technical assistance also during the course of tender for a public contract, negotiations with applicants and conclusion of a contract is crucial.

## **Scope of projects and potential savings**

- The EPC method is not universally applicable. Assessing the suitability of this method for a particular building and project is essential.
- The ratio of volume of investment and potential savings is one of the key factors – simple return on investment should be between 4 and 12 years (usually less than 10 years).
- The EPC method is generally not suitable for small buildings – return on investment derived from operating cost savings tends to be weaker in small buildings.
- Deep refurbishment of buildings with EPC is usually only possible, if the client is ready to provide an additional budget. The supplier can normally not refinance expensive building shell measures from the energy savings alone.

## **Changed use of buildings**

- Contracts are typically concluded for 6 to 15 years – any alterations in the use of the relevant building during the contractual period may lead to significant changes in energy consumption.
- A detailed calculation of the initial energy consumption (reference energy consumption during the previous period or „baseline“) is essential when altering the use of buildings.
- EPC project is flexible and any significant change would only require a recalculation of the initial energy consumption (reference consumption).



# Selection of supplier

- **Negotiation process** with publication allows selecting a supplier based on discussion of offers and negotiation with applicants.
- **The contract documentation for an EPC project tender** includes in particular:
  - Detailed specification of conditions for awarding the public contract
  - Draft standard contract on the provision of energy services
  - Available energy audit
  - Technical documentation (design documents, technical and audit reports, etc.)
  - Information on the condition of technical equipment and buildings
  - Information on energy consumption to date
  - Calculation of reference energy consumption
  - Specification of any compulsory measures required by the public contract awarding body
- **Effective specification of assessment criteria** is crucial for successful evaluation of bids. Optimal combination of individual assessment criteria best suited for the relevant building is always sought.
- Due to the complexity of selection of EPC project suppliers, the technical aspects of EPC tenders are usually addressed in **cooperation with a facilitator** (specialised consulting firm).



# Contacts

**Webpage:** [www.eesi2020.eu](http://www.eesi2020.eu)



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## Other project partners:

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[www.grazer-ea.at](http://www.grazer-ea.at)



**Belgium** Factor4  
[www.factor4.be/en](http://www.factor4.be/en)



**Bulgaria** ELI (European Labour Institute)  
[www.eli-energy.com](http://www.eli-energy.com)



EUROPEAN LABOUR INSTITUTE

**Croatia** REGEA  
[www.regea.org/en](http://www.regea.org/en)



REGIONALNA ENERGETSKA AGENCIJA  
NORTH-WEST CROATIA  
SIEVEROZAPADNE HRVATSKE  
REGIONAL ENERGY AGENCY

**Czech Republic** SEVEN, The Energy Efficiency Center  
[www.svn.cz](http://www.svn.cz)



**Ireland** CODEMA  
[www.codema.ie](http://www.codema.ie)



**Norway** Norwegian Energy Efficiency, Inc.  
[www.nee.no](http://www.nee.no)



**Spain** ICAEN  
[www20.gencat.cat/portal/site/icaen](http://www20.gencat.cat/portal/site/icaen)



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