D2.5 Country Report on Recommendations for Action for Development of EPC Markets

NORWAY

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Transparense project

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Report on recommendations for action for development of EPC markets in Norway

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Abbreviations

EESI - European Energy Service Initiative (EIE project)

EPC – Energy Performance Contracting

ESCO – Energy Service Company (EPC provider)

1 Summary

The present report aims at providing recommendations for action for the successful development of the EPC market in Norway.

The report is building on the data and information gathered by two other similar projects, the European Energy Service Initiative[1] (EESI) and the ChangeBest project[2]. It is also intended as a continuation on the work of the European Commission's Joint Research Centre – Institute for Energy, and more particularly on its 2010 Status Report on Energy Service Companies Market in Europe[3].

EPC is an important and effective tool for energy efficiency if the municipalities get familiar with the concept and gain trust while the ESCOs provide good solutions. Experiences so far have shown that this development will not happen by market forces only. The authorities and mainly the national energy agency Enova could play an important role to influence the marked in a positive direction if the measures mentioned in the report are implemented. The main recommendations are:

[1] http://www.european-energy-service-initiative.net/eu/toolbox/national-reports.html
[2] http://www.changebest.eu/index.php?option=com_content&view=article&id=43&Itemid=10&lang=en
[3] http://publications.jrc.ec.europa.eu/repository/bitstream/111111111/15108/1/jrc59863%20real%20final%20esco%20report%202010.pdf

- Promotion and training in EPC for all actors involved (project facilitators, building owners, ESCOs)
- Presentation of success stories and statistics ("benchmarks")
- Promotion of the new national standard for EPC contracts, and adjustments according to experiences made
- Increased financial support for project development (facilitators) and implementation (investments/measures)

2 Introduction

2.1 Methodology

The contents of this report are based on two main sources:

- the results of a nation-wide EPC survey which was sent to the country's main actors within the EPC market
- the market knowledge of the authors, as well as research from local / national literature (publications and studies, legislation documents, official statistics and databases)

The first step in collecting the data used in this document was to distribute a survey focused on Energy Performance Contracting (EPC) to the country's most relevant energy services companies, organisations and finance houses. The survey contained questions around four main areas: existing ESCOs and national EPC market; EPC models, financing models and policy initiatives. The answers were then analysed and the results were presented in a previous report in aggregated form (Transparense National Report on identified barriers and success factors for EPC project implementation).

This report goes one step further and makes a series of recommendations tailored for Norway's national EPC market. These recommendations are based on the information gathered from the respondents to the surveys (in written form or in conversations), as well as on the authors' knowledge of the national market and of any relevant literature / research piece.

This report aims at showcasing the successful experiences for EPC providers in Norway and separating what has been proven to enhance the EPC offering from what constitutes potential barriers. The recommendations contained in this report have been made in order to tackle the issues highlighted in the previous Transparense report (Transparense National Report on identified barriers and success factors for EPC project implementation). The

authors believe that EPC providers / customers and the EPC industry as a whole will benefit from replicating the success factors observed within the national market. These recommendations should be seen as “best practice” guidelines and disseminated within Norway in order to improve the quality of the EPC market.

2.2 What is Energy Performance Contracting

Energy performance contracting (EPC) is when an energy service company (ESCO) is engaged to improve the energy efficiency of a facility, with the guaranteed energy savings paying for the capital investment required to implement improvements. Under a performance contract for energy saving, the ESCO examines a facility, evaluates the level of energy savings that could be achieved, and then offers to implement the project and guarantee those savings over an agreed term.

A typical EPC project is delivered by an Energy Service Company (ESCO) and consists of the following elements:

- **Turnkey Service** – The ESCO provides all of the services required to design and implement a comprehensive project at the customer facility, from the initial energy audit through long-term Measurement and Verification (M&V) of project savings.
- **Comprehensive Measures** – The ESCO tailors a comprehensive set of measures to fit the needs of a particular facility, include energy efficiency and in addition, can include renewables, distributed generation and water conservation.
- **Project financing** – The ESCO arranges for long-term project financing that is provided by a third-party financing company, typically in the form of a bank loan.
- **Project Savings Guarantee** – The ESCO provides a guarantee that the savings produced by the project will be sufficient to cover the cost of project financing for the life of the project.

Energy Performance Contracting allows facility owners and managers to upgrade ageing and inefficient assets while recovering capital required for the upgrade directly from the energy savings guaranteed by the ESCO. The ESCO takes the technical risk and guarantees the savings.

The ESCO is usually paid a management fee out of these savings (if there are no savings, there is no payment) and is usually obligated to repay savings shortfalls over the life of the contract. At the end of the specific contract period the full benefits of the cost savings revert to the facility owner.

The methodology of Energy Performance Contracting differs from traditional contracting, which is invariably price-driven. Performance contracting is results-driven: ensuring quality

of performance. ESCOs search for efficiencies and performance reliability to deliver contractual guarantees.

While there is a vast number of definitions of EPC within Europe, within Transparense project we use the EU wide definition provided by the Energy Efficiency Directive[4] (EED):

"'energy performance contracting' means a contractual arrangement between the beneficiary and the provider of an energy efficiency improvement measure, verified and monitored during the whole term of the contract, where investments (work, supply or service) in that measure are paid for in relation to a contractually agreed level of energy efficiency improvement or other agreed energy performance criterion, such as financial savings;".

At the same time, within Transparense project, the focus will be given to the EPC projects, where the above mentioned "contractually agreed level of energy efficiency improvement" is **guaranteed** by the EPC provider[5]. This is in line with the EED, as in its Annex XIII, guaranteed savings[6] are listed among the minimum items to be included in energy performance contracts with the public sector or in the associated tender specifications. Moreover, in the article 18 of EED, Member States are required to promote the energy services market and access for SMEs to this market by, inter alia**,** disseminating clear and easily accessible information on available energy service contracts and clauses that should be included in such contracts to **guarantee energy savings** and final customers' rights.

Further, within the Transparense, we define the companies providing EPC as follows:

" **'EPC provider'** means a natural or legal person who delivers energy services in the form of Energy Performance Contracting (EPC) in a final customer's facility or premises"

Such definition respects the fact that EPC is only one type of energy services, and is in line with the definition of the energy services provider specified in the EED (for its definition see the glossary at the end of the report). Within the Transparense texts, we use the commonly used term "ESCO" as equivalent of the energy service provider.

EESI conclusions

The main conclusions from the previous Norwegian EESI and Eurocontract projects are:

[4] Directive 2012/27/EU of the European Parliament and of the Council on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC was approved on 25 October 2012.

[5] Guarantee of energy efficiency improvement is defined by EN 15900:2010 as "commitment of the service provider to achieve a quantified energy efficiency improvement".

[6] Annex XIII of the EED lists the minimum item as: „Guaranteed savings to be achieved by implementing the measures of the contract."

- Knowledge of the EPC concept is increasing, but the potential is still large.
- Project facilitators play a crucial role both in establishing projects and in securing the building owners interests and quality of the contracts.
- EPC can be complicated to understand and covers several professions (several technical trades plus procurement/legal aspects).
- There are still few good suppliers of EPC (ESCOs), but the market is growing
- The market development has not been done by ESCOs or commercial actors

The market has been limited by lack of experienced project facilitators. A Norwegian Standard for EPC should increase interest from the established consulting firms, and thus provide improved capacity and expertise to help building owners with the implementation of EPC projects.

3 EPC Code of Conduct

An important step towards a transparent and trustworthy EPC market is the acceptance and widespread usage of the EPC Code of Conduct. Such a Code is being developed under the Transparense project and will be publically discussed with all interested parties to reflect their needs and concerns.

The Code of Conduct is a set of principles describing best practice from EPC providers (primarily) and customers (secondly) in the preparation and implementation of EPC projects in order for them to succeed, maximizing the energy and cost saving resulting from the EPC. The Code is a voluntary commitment and it is not synonymous with any legal obligation. However, acts in violation of the EPC Code of Conduct may cause damage to the EPC providers' and/or the customers' good name. It is also an indicator of the quality requirements for new EPC providers entering the EPC market. The EPC Code of Conduct is an in-depth view of what EPC providers and customers believe the EPC excellence is, and it paints a picture of how customers and EPC providers can expect to be treated as a result.

By adhering to the EPC core values of the Code of Conduct, EPC providers and customers develop solid foundations for working partnerships based on trust and confidence. They are expected to utilise the Code in order to further develop energy efficiency services to meet their goals and expectations.

The EPC Code of Conduct aims to improve understanding and awareness of the EPC and raise EPC quality requirements by setting best practice commitments and proposing standards to be met by the EPC providers, in line with other initiatives. The Code encourages the development of voluntary quality labels and tools for certified energy savings, and ultimately further develops energy efficiency policy. As a result, the EPC market as a whole

(level of demand + quality of offer) in Norway will benefit from adherence to the Code of Conduct.

4 Governmental strategy to boost the EPC market

There are currently no concrete governmental strategies to promote or encourage EPC in Norway. The national energy agency Enova SF has implemented some dissemination activities (see next section). They also have grant programs for energy efficiency measures in general, but these present no major driving force.

There are in general two main strategies the authorities can use to influence implementation of energy efficiency measures:

1. Regulations; e.g. for energy use in existing buildings (kWh/m2)
2. Market incentives; e.g. grant schemes, taxes, promotion/dissemination

Regulations

There are currently no regulations on energy use in existing buildings in Norway (only on new buildings through building codes). Hence the implementation of energy efficiency measures is up to the building owner – the municipality, and their priorities (political), economy (usually strained) and capacity (also very limited). As a result the status for energy efficiency is poor in general, and varying depending on local framework, personnel etc. There are no changes in this area foreseen, and all though it could be a powerful tool it is recommended to focus more on the other strategy involving market incentives.

Market incentives

In Norway a few market incentives programs have been implemented, but so far with sporadic occurrence and low market impact. Enova SF has grant schemes for energy efficiency in general, with a support level of 10-15%. There are taxes on oil and electricity consumption (0,015 Euro/kWh). An increase in any of these could result in increased implementation of energy efficiency measures.

Promotion and approval

The most important for development of EPC in Norway is that the authorities actively promote the EPC concept to ensure that the involved actors believe in the concept and trust the model. The use of success stories is vital in this regards. There is no general overview of these or statistics on the projects implemented. This would be a valuable help to the promotion of EPC in Norway.

During the last year the lack of available ESCOs have been an issue. This could be solved by increasing the number of ESCOs on the market or if the existing ESCOs expand their EPC business areas. This is controlled by market and demand. The number of available EPC expert is also a problem in a small country like Norway.

5 Removal of legislative and administrative barriers

EESI recommended the following measures to increase the use of EPC in Norway:

1. Follow up initiated projects to ensure success stories and to document processes and results. Experiences suggest that further support is crucial to prevent these projects from giving EPC a bad reputation in the market, which could be detrimental.
2. Continue marketing of and training in EPC to private and public building owners and operators. Focus on good examples and available tools (standard documents). KS[7] will be an important partner in this regards, both to ensure quality, as dissemination channel and "door opener" for the municipalities.
3. Support for project facilitators – independent actors who can support the building owners in developing EPC projects and secure good contracts.
4. Develop standard documents, training concepts and implementation methods for other building owners like housing co-operatives, water works and private actors.
5. Develop methods and standard documents as well as pilot projects for EPC in new buildings.
6. Establish special support programs for use in EPC projects, based on the fact that these projects have guaranteed energy reductions as opposed to traditional implementation methods which often stops after the audit phase.

These recommendations are still valid.

General focus on energy and climate has increased the motivation to implement energy saving measures in buildings. Increased energy prices would improve the payback. Energy labelling of buildings should also increase motivation for energy saving measures. Focus on the municipalities and their tools in the climate debate will create a need for public buildings to show good examples, to fulfil objectives in climate plans and environmental certification systems.

[7] The Norwegian Association of Local and Regional Authorities (KS) is the only employers' association and interest organisation for municipalities, counties and local public enterprises in Norway.

Lack of project facilitators is a barrier in the current market. The EPC expertise is mainly found within the ESCOs, and they are interested in the project contracts not in the development of tenders (as these two activities are difficult to combine under public procurement legislation). Support for project development could make this role more attractive in the market.

The newly developed national standard for EPC contracts will reduce the barriers regarding trust and lack of standard documents. The standard should be promoted and tested thoroughly, and adjustments made according to experiences to make sure it is always up to date in the market and that it will be used and acknowledged.

6 Information dissemination, education and networking

Over the last 5-10 years several information activities on EPC have been implemented in Norway:

- EU project activities (Eurocontract, EESI); training, newsletters, web sites, meetings, presentations, media activities
- Enova seminars for municipalities
- KS seminars for municipalities

The main target groups have been municipalities, with some focus also on the ESCOs and financial sector (but with much less interest).

Information, education and networking are still essential activities to increase use of EPC. There is a need for independent actors and initiatives/funding to implement these activities on a wide scale. ESCOs will implement some information activities but with sale as the main focus, and the building owners need to trust the information available. All involved actors are relevant target group, but the main focus should be on the building owners to increase market demand.

7 Financial instruments to support EPC

As the public bank (KBN) has good financing opportunities for energy efficiency measures ("green interest rates") there is currently no big need for new financial solutions for public EPC projects in Norway.

National grant schemes to promote energy efficiency investments could be increased and promoted more. There is currently a program to support development of energy efficiency projects in the municipalities, which can be used for preparation of EPC projects. This opportunity could be better promoted and described as part of the program.

References

- EESI report "D6.2 Draft policy recommendations paper", NEE
- EESI report "D6.3 National EPC position paper", NEE
- Input from national EPC expert/facilitator Kjell Gurigard (interview 8.1.14 etc).
- KS web site: www.ks.no
- KNB web site: www.kommunalbanken.no

Definitions and glossary

Term	Definition
energy efficiency (EE)	means the ratio of output of performance, service, goods or energy, to input of energy (as defined by EED)
energy efficiency improvement	means increase in energy efficiency as a result of technological, behavioural and/or economic changes (as defined in EN 15900:2010)
energy management system	means a set of interrelated or interacting elements of a plan which sets an energy efficiency objective and a strategy to achieve that objective (as defined by EED)
energy savings	means an amount of saved energy determined by measuring and/or estimating consumption before and after implementation of an energy efficiency improvement measure, whilst ensuring normalisation for external conditions that affect energy consumption (as defined by EED)
final energy consumption	means all energy supplied to industry, transport, households, services and agriculture. It excludes deliveries to the energy transformation sector and the energy industries themselves (as defined by EED)
guarantee of energy efficiency improvement	means commitment of the service provider to achieve a quantified energy efficiency improvement (as defined in EN 15900:2010)
energy performance contracting (EPC)	means a contractual arrangement between the beneficiary and the provider of an energy efficiency improvement measure, verified and monitored during the whole term of the contract,

	where investments (work, supply or service) in that measure are paid for in relation to a contractually agreed level of energy efficiency improvement or other agreed energy performance criterion, such as financial savings (as defined by EED)
EPC provider	means a natural or legal person who delivers energy services in the form of Energy Performance Contracting (EPC) in a final customer's facility or premises
energy service provider /energy service company (ESCO)	means a natural or legal person who delivers energy services or other energy efficiency improvement measures in a final customer's facility or premises (as defined by EED)
energy service (ES)	the physical benefit, utility or good derived from a combination of energy with energy-efficient technology or with action, which may include the operations, maintenance and control necessary to deliver the service, which is delivered on the basis of a contract and in normal circumstances has proven to result in verifiable and measurable or estimable energy efficiency improvement or primary energy savings (as defined by EED)