



REPORT

on status quo of EPC markets in the city of Oslo

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Conditions of EPC implementation

Potential of EPC implementation in respective city/region

The potential of EPC implementation in the city of Oslo, is considerable. There are a large amount of older buildings, some owned by public sector and some by private sector. Many buildings are in need of maintenance and energy efficiency.

Existing Energy Efficiency Documents for the city/region

The municipality of Oslo has a large number of Documents where environmental issues and Energy Efficiency are some of the topics:

- Kommuneplan
- Byøkologisk program
- Handlingsplan for miljø og klima 2012-2015
- Framtidens byer
- Klima- og energiplan for Osloregionen
- Tipunktsplan klima
- Handlingsplan stasjonær energibruk
- Passivhus
- Internasjonalt samarbeid

EPC is not mentioned in any of these documents, there are specific goals for energy savings, but nothing about the process to achieve the savings.

Organization and ownership of public buildings in Oslo

The figure below shows the organization Chart of City of Oslo. Department of Cultural Affairs and Business is the owner the majority of buildings owned by public sector in Oslo, through Municipal Undertaking units.

Municipal Undertaking for Social Service Buildings is the owner of all health centers, nursing homes and nurseries in Oslo

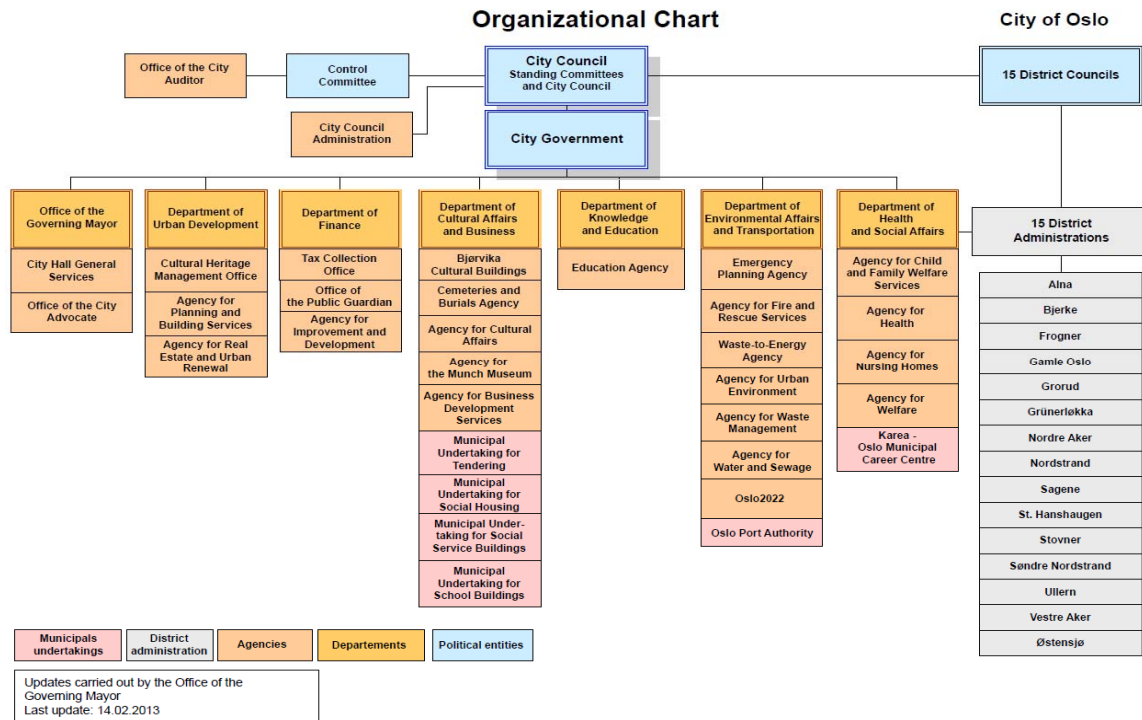
Municipal Undertaking for School buildings is the owner of all school buildings in Oslo

Municipal Undertaking for Social Housing is the owner of all council flats in Oslo

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Potential target groups and buildings for EPC implementation

Public sector

The three major public building owners (the undertaking units) will be the target groups for the EESI2020 project. Through these groups we will gain access to the majority of public buildings in Oslo. Potential buildings consists of older buildings with high energy consumption.

Private sector

There are a large amount of buildings in private sector suitable for EPC implementation, but because the owners are smaller, these groups will not be the main target during the EESI2020 project.

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Attitude of the local/regional authorities to EPC

In one year only, the attitude with the local authorities has changed in favour of EPC implementation in Oslo. This previous scepticism is likely to be the reason why EPC projects, hasn't been tried out sooner. We have had an initial meeting with "Undervisningsbygg" and they seem positive towards EPC as a tool to develop some of their buildings.

Barriers in EPC implementation

The most significant barriers against diffusion of EPC in Norway (in random order):

1. Lack of knowledge about EPC, both among municipalities and ESCOs, as well as lack of documented experiences and success stories.
2. The process leading up to an EPC contract can be seen as complicated and expensive. The reason being the extensive amounts of information that has to be collected in order to develop tendering documents.
3. Insecurity about legislation and framework (public procurement)
4. Lack of capacity (time and knowledge)
5. Insecurity around the process and tendering/contract documents

Other barriers for public building owners are:

- Focus on investment costs, not operation costs. Budgeting issues.
- Savings are spent on the administration not the users of the building. The profits "vanish".
- Set in its way, not used to buy services. Fear of losing control and responsibilities.
- Low energy prices in Norway leads to longer payback time and less interest in energy saving measures.

These barriers have been present for several years and the EESI project period have seen an improvement in some of the factors like knowledge of the concept and legislative framework (based on standard documents), but the barriers are still there to overcome among the majority of building owners.

Important success factors identified in previous projects are (numbers relate to barriers above):

1. Marketing of - and training in EPC – by use of good examples
2. Grants for the contract process. Training of actors. Standard documents.
3. Standard tendering and contract documents. Guidelines.
4. Information about - and training in EPC

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5. The authorities (Enova) market EPC actively towards building owners and operators and offer courses for the involved actors (building owners, ESCOs and finance institutions). This will give a legitimacy and approval of EPC that will be seen as positive in the market
6. For each project:
 - a. Sale should start at the management (understanding of non-energy related advantages/financing, power to decide on projects)
 - b. Involve technical personnel in the buildings (important in decision making, understands the value of energy use from a technical aspect, needs reassurance)
 - c. Offer flexible solutions adapted to the customer (not to overwhelm)
7. Energy prices: higher energy prices in Norway in the future will lead to better profitability of energy saving measures and increase the interest in EPC.

Position of the EPC implementation

Existence of basic instruments for EPC

Model documents were developed in the projects Eurocontract and EESI. The model documents have been used in several EPC projects over the last few years, and improved by experiences made from this. They were incorporated in the “Green Municipalities” project run by the Norwegian Association of Local and Regional Authorities (KS), where the legal aspects were developed further. The model documents were used as a basis for developing a Norwegian standard for EPC contracts. This work started in 2011 and is still ongoing.

Existence of EPC (Energy Services Companies)

Survey of existing ESCOs

The terms EPC and ESCO is not well established in Norway. Mainly there are three types of EPC contractors:

1. Entrepreneurs/suppliers (e.g. HVAC)
2. Consultants/advisers
3. Energy companies (electric utilities and oil companies)

The majority of active ESCOs are in the first category, and in particular the first one has shown growth over the last years. ESCOs may cover all parts of the contract including financing alone, or pair up with other actors. However, only one company can be responsible towards the client and hence take the risk. The other actors involved are sub-contractors delivering products and services. The latest experiences are that 5 - 7 contractors participate in EPC tendering processes. Some of

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these are large national or international actors, and some are local actors. Only 5 actors have been awarded with EPC contracts.

A small market in a large country presents some barriers in project development/tendering. Small municipalities with few buildings placed over a large geographical area make the projects less interesting particularly for the large ESCOs. They therefore struggle to get good offers. This can be helped by cooperation between municipalities, which is a growing trend. Experiences from a project with 3 municipalities published in 2011 are very positive.

Several “EPC-like” solutions are and have been on offer. Most guarantee a reduction in energy use, achieved through upgrading existing building equipment. Some ESCOs offer set energy prices, either through better supply contracts or as a result of new energy sources (bio energy, waste etc). Several actors offer complete energy plants that can use various energy sources. Some also deliver maintenance and operational services. Some ESCOs provide billing services, tariff and supplier evaluation.

In some cases these “EPC-like” projects can be a problem in getting the building owners to trust the EPC concept and develop the EPC market in Norway. A small number of ESCOs market these solutions strongly, resulting in insecurity among building owners and poorly executed so called EPC projects. The EESI project has contributed strongly towards consensus on use of developed standard documents. These are used by the large majority of municipalities today.

Both KS and Enova SF recommend the use of the EESI standard documents.

The demand for EPC is on the increase. Several new actors are interested in this growing market and in getting pilot projects. This has resulted in more competitive pricing. International actors are monitoring the market and using their resources to gain experience and market shares.

Ability to compete

According to the law of public procurement, EPC projects (in public buildings) have to follow public procurement procedures. For EPC projects procedure of negotiation is mainly used.

ESCO associations or other institutions

There are no ESCO associations in Norway, only general associations for consultants and entrepreneurs. In the work on a national standard for EPC contract a committee has been established comprising the major ESCOs, the national energy agency, building owner groups etc.

Financing and banking sector in relation to EPC projects

Financing and banking sector has got very limited knowledge about EPC projects and show very little interest in such projects

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Existence of programmes for support of EPC

There are no specific support programmes for EPC in Norway. The national energy agency (Enova SF) has general energy efficiency grants that can also be used for measures implemented by the EPC model.

EPC projects

Realized projects

As far as we have experienced no EPC projects has been realized by public sector in Oslo. There might have been some smaller EPC-projects in private sector, consisting of mainly single buildings.

Prospective projects

During a project called RENERGI/ESPARR supported by Norges Forskningsråd (The Norwegian board of research) two tools for energy saving will be tested. One tool is AMS, automatic measuring of power consumption. The other tool is EPC. During this project, one EPC-project will be implemented, namely, Nedre Silkestrå Borettslag (Oslo Housing association). This project consists of 146 flats divided into 14 buildings. The flats varies slightly in size from approx. 50m² to about 100m². The buildings are dated from the early 1980`s.

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