



Energy Performance Contracting in Örebro municipality, Sweden

EPC IN ÖREBRO

A large part of the real estate in Örebro municipality were built in the 1960's and -70's and had a great need for maintenance. The municipality had not had sufficient financial resources for maintenance, which lead to increased need for reparations. At the same time the energy prices were increasing. Energy- and operation efficiency measures were necessary, and that is why the EPC project started.

The visions of the EPC project in Örebro is to decrease the energy costs of the municipality and have guaranteed savings, while at the same time reduce the environmental effects by decreasing the use of oil and electricity, as well as district heating. The energy production has to some extent been replaced by pellet fuels and heat pumps.

The EPC project in Örebro consists of three parts. Parts 1 and 2 lasted from 2006 to 2008, and part 3 is implemented during 2010. The project includes energy saving measures in schools, preschools, sports centers, indoor pool facilities, senior homes, heritage buildings, and administration and office buildings administrated by the municipality. The energy saving measures are related to ventilation, heating, electricity, control systems, and water. A large part of the investments, 30-35%, was invested in optimisation and control systems.

INTENTIONS OF THE PROJECT

- Reducing the municipality's energy costs
- Reducing the environmental impact by decreasing the use of oil and electricity
- Improving the indoor climate
- Develop the competence within the municipality
- Reduce the need for urgent reparations
- Bring about conditions for central system surveillance
- Form a foundation for energy performance certifications

ADVANTAGES

- Guaranteed energy reduction
- Reduced costs for urgent reparations
- Improved control of energy costs
- Environmental benefits
- Improved competence
- Ensured comfort in the real estate
- Fulfilling authority demands on energy performance certifications

PARTS 1 AND 2

Parts 1 and 2 include buildings with a total surface of 420 000 m². A pre-study showed that the use of energy could be decreased by 20% by taking energy saving measures.

The total investments in parts 1 and 2 were 16.5 million €. A government grant covered 3.4 million € of the investments. The annual savings were expected to be over 1.4 million €, leading to a pay off time calculated to 9.2 years.

After installations finished for parts 1 and 2, there is a three year warranty and performance period, during which the performance and results are guaranteed.

PART 3

Part 3 is implemented during 2010. It includes some energy saving measures that were not profitable in 2005, but

that are now profitable due to increased energy prices, as well as some real estates that could not be analysed in time before parts 1 and 2 started.

In part 3 measures are taken on an additional surface of 76 000 m² to a cost of 2.6 million €. The annual savings are estimated to over 0.26 million €. The pay off time is expected to be 10 years.

RESULTS

From 2005 to 2009 district heating decreased by 11 GWh, leading to savings of 0.79 million €. Use of electricity decreased by 2.6 GWh, leading to savings of 0.32 million €. Use of bio fuel increased by 2.4 GWh. The use of oil decreased by 360 m³, leading to savings of approximately 0.32 million €.

Due to the energy saving measures within the project, the carbon dioxide emissions from the buildings included are calculated to decrease by 36%. The sulphur dioxide emissions and nitrogen oxide emissions are expected to decrease by around 25%.

Energy saving measures have satisfied the goal of saving 20% of the costs for energy in parts 1 and 2. The expected annual savings of over 1.4 million € became 1.7 million € in reality in 2009. The 20% decrease of energy use that was expected in the pre-study has not yet been reached, but the financial savings have nonetheless been reached due to increased energy prices. The reduction of energy costs by over 20% means that the money can be used for improved property maintenance, among other things.

CONTACT

If you want to know more about the EPC project in Örebro, contact Kommunfastigheter, phone number 0046-19-21 10 00 or e-mail kommun@orebro.se.

WHAT IS EPC?

Energy Performance Contracting, EPC, is a method to carry out procurement and implement energy saving measures in buildings.

Investments in energy- and operation efficiency measures are repaid by the energy savings that are a result of the EPC project. An entrepreneur comes up with suggested energy saving measures, which will lead to energy and financial savings. The imbursement the entrepreneur receives is related to how well the savings are achieved or surpassed.

An EPC project is mainly initiated by the need to save energy. Positive side-effects include improved real estates as worn-down installations are checked and replaced as needed, at the same time as the environmental impact is decreasing. The obtained savings help finance the investments.

EPC can be a profitable way to make investments in making buildings more energy efficient while at the same time improving the indoor climate.