

ESCO in the Municipality of Middelfart Triangle Region, Denmark



Town Hall, Municipality of Middelfart, Triangle Region

Triangle Region, Denmark



Summary

Money can be saved by implementing energy saving activities in public and private buildings. The municipality of Middelfart has used the ESCO model to make energy savings in approximately 100 public buildings. ESCO is a concept where, through a third party, renovation and modernization tasks are accomplished without financial risk for the municipality.

Results in the Middelfart project have showed savings up to 24 % of the total energy use, which is more than the guaranteed savings from the ESCO company.

Results and Impacts

Investment: 6 mio. Euro

Primary energy savings:
2.770 Mwh

Reductions of greenhouse gas emissions: 13.430 t CO₂e/year

Aims and Objectives

The aim of the project was to introduce the ESCO model into a Danish context. Historically the development of ESCO took place in connection with historic crises and especially on the basis of the oil crises in the seventies and the beginning of the eighties. It was a way to handle energy savings through third party financing. The municipality of Middelfart saw the model as a way to renovate and modernize buildings without taking resources from the primary tasks of the municipality.

A preliminary study in eight buildings had shown a potential for energy savings up to 23 % and compared with the rest of the buildings in the municipality, the aim was 20 % energy saving on the total energy consumption.

A final objective was to develop a model that could be replicated to other municipalities and public organisations in Denmark.

Technical and Financial Implementation

The project deals with energy conservations in public buildings. On the background of preliminary studies, renovation of all the buildings in the municipality have been accomplished. When the individual institution receives its municipal grant to pay for the renovation expenditures, the municipality depreciates the future annual electricity, water and heating budget of the institution with the value of the calculated financial saving. In that way, the institution do not become disadvantaged compared with before. If the institution is able to cut down more on the consumption – e.g. by reversed conduct – the institution can have the extra saving at its disposal. In this way there is a profit in further changes of conduct.

The price of the renovation were approximately 44 million Danish kroner (approx. 6 M euro) and is financed by the municipality obtaining a bank loan which is then provided to the ESCO company. In return, the ESCO company is supposed to accomplish the specified tasks. If the expected 20 percent savings every year within the first seven years are not achieved as guaranteed, the ESCO company must pay the difference. If up to three percent more savings are achieved, they go to the municipality. Further savings are divided between the ESCO company and the municipality. After the first seven years, all future savings go to the municipality. The actual renovation work was finished in 2010, and the first results have shown more than 24 % energy savings.

The Partners and Stakeholders

The project was developed and implemented in cooperation between Municipality of Middelfart, Schneider Electric A/S and TRE-FOR (local utility company). In addition, the following was also participating: Middelfart Sparekasse (Savings bank), Middelfart Fjernvarme (district heating company), Rockwool, Energy Service Denmark, Municipality of Gribskov and Municipality of Kalundborg.

Lessons Learnt

The Middelfart model works and it is possible to replicate it to other municipalities and on other task. In Middelfart, the model has been expanded and is now used in Street lights and in private households.

It is possible to get good results using a PPP on energy savings. Public organisations pay a low interest rates on loans and private companies can provide competences, that does not exist in public organisations.



How this Action could be Replicated

The main barriers for replication to other regions in EU are the different national rules. The model is simple and easy to replicate.

Find out more about this and other Sustainable Energy Actions, online at: www.regions202020.eu/gp

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Further Information

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 Other contact organizations, etc: www.middelfart.dk