

Energy Performance Contracting in Copenhagens Hvidovre Hospital

One of the biggest contracts in Europe



In 2016, one of the biggest Energy Performance Contracts in Europa was signed in Denmark with an investment of over 20 Million Euros. The project was initiated by the Hvidovre Hospital in Copenhagen and Siemens Denmark as ESCO. Representatives from both actors visited swissesco in Spring 2017 and presented their amazing efforts. We asked Lars Nielsen, Sales Director of Siemens Denmark what the project was all about and also talked to Christian Johansen, Operation and Technical Manager of the Hvidovre Hospital.

What exactly does the project include? What measures do you take and how much energy are you planning to economize?

Lighting

Change of 14,770 light fittings to the newest LED technologies with daylight sensors with DALI controllers.

Building Management System

Upgrade to the state-of-the-art intelligent building management system in order to control all technical systems in the hospital.

Energy Management System

The hospital will have an energy management system installed with automated meters enabling the technical staff to follow the energy consumption hour by hour.

Intelligent controlled bedrooms

The 500 bed rooms will have a new patient terminal installed enabling the patient to control the lighting, heating, ventilation, curtains and blinds from the bed. It will also be possible for the patient to surf the internet and order his/her food directly from the hospital kitchen.

Photo Voltaic

The hospital will have 8,000 m² photovoltaics installed on the roofs with a production of 1,5 MWp ~ 1,2 GWh/year.

Windmills

Installation of 5 new 20 kW windmills to support the strategy of renewable energy alongside with photovoltaics.

Heat pumps

Installation of new cooling and heat pumps for the hot domestic water

Cooling/heat pumps

For the cooling of the hospital, Siemens will install an energy storage (BTES) 240 meters below the ground. This is done to store cooling in the wintertime and heat in the summertime to improve the efficiency of the cooling/heat pump and thereby not waste valuable energy.

Ventilation

Installation of new air handling units, new heat recoveries and new fans.

How is the project financed?

The funding of the project comes from Kommunekredit. Kommunekredit is a public financing company owned by all the 98 municipalities and 5 regions in Denmark. Hvidovre Hospital is a public hospital and part of the capital region.

How do Siemens and the Hvidovre Hospital collaborate?

In cooperation with the technical staff at Hvidovre Hospital, Siemens initiated a partnership and created a comprehensive energy efficiency project for the hospital located near the Danish capital of Copenhagen. The Energy Performance Contracting (EPC) project at Hvidovre Hospital includes renovations of the technical infrastructure and plants expanding the hospital's own renewable energy sources

How did you convince the Hospital to do an EPC?

Hvidovre Hospital has a strategy to reduce its energy consumption by 15% and more, whereas 10% of the energy consumption would be represented by renewable energy in 3 years (2020). The aim of the project is to reduce the energy consumption by renovating the technical facility. The project is an Energy Performance Contracting project (EPC), where Siemens guarantees savings alongside with a 10 year payback period.

More on: www.swissesco.ch



Christian Johansen, Operation and
Technical Manager, Hvidovre Hospital

«Our plans to modernize and expand the Hvidovre Hospital was a unique chance to use new initiatives that also improve our environmental and energy efficiency records. The collaboration with an ESCO was a perfect solution.»



Lars Nielsen,
Sales Director of Siemens Denmark
