

Case study

The planning process and its influence on the introduction of innovative, energy efficient solutions in hospitals : The 'Nye Østfoldsykehuset' Project, Norway

The project

The Norwegian LCB-HEALTHCARE pilot concerns a new build acute hospital (nye østfoldsykehuse-NØS). The project has completed a front-end planning process in line with the National Guidelines for Front-end Planning for Hospitals. The pre-engineering phase was completed in December 2010.

Background

The goal of the pilot project is to promote the use of more energy effective solutions in hospitals through better planning and procurement processes. As well as being more energy efficient the solutions also need to be technically and economically viable. The survey carried out by the LCB-HEALTHCARE project and experiences from the projects show that a lack of clear goals and focus from planners, leaders and decision makers is a hinderance when implementing new and innovative solutions.

“When planning documentation and calculations of costs and benefits is unclear and not comparable between projects, it is easy to go for the safe option.”

Asmund Myrbostad Pilot Project Co-ordinator, Norway

The pilot project focuses on:

- Developing tools and methodologies for comparing projects and evaluating goals, plans and results in relation to energy effective solutions.
- Learning to apply and implement better procurement strategies to promote the choice of innovative solutions.



Method

The approach involves incorporating issues concerning energy effective solutions and other environmental demands into the standardised planning guidelines. There is a close relationship between front-end planning and the final design and technical solutions, in that front-end planning involves:

- Early identification of functions with high energy demands
- The location of high energy demands in the building
- Flexibility and the ability for the building to accommodate changes in use and function
- Planning the procurement of medical equipment, etc.

In order to uncover problems, learn from practical examples, and develop solutions, the pilot project has so far completed the following activities:

- Established an active working group within the hospital.
- Contacted three other associated hospital projects, which are also in the front-end phase and have finished, or are about to finish the pre-design phase.
- Analysed reports and planning documents from the pilot project and the three associated projects for goals, plans and proposed solutions for energy supply and production, including building costs.
- Organised a workshop in May 2011, focusing on: transfer of experience and knowledge about solutions for energy effective buildings; how to apply functional and outcome based specifications in tenders; and how to implement new procurement models for early engagement between the buyer and the supply chain.

In spite of Environmental Guidelines for sustainable procurement of public buildings that were published in 2004, a recent survey (ref: Klima og miljøtiltak i spesialisthelsetjenesten 01.12.2010, cited in a report from the Regional Health Trust) indicates that there are no new build hospitals that are showing outstanding performance on energy efficiency.

Next steps

As a result of the workshop the following will take place:

- Identification of critical factors for comparing energy demand, solutions, and cost and operational effectiveness.
- All four projects will be analysed and compared with each other.
- Based on the results, consensus based standards will be proposed and agreed between the four projects.
- The standards will be incorporated into the guidelines for front-end planning of hospitals.

Functional space and energy demand

The Directorate for Health Affairs has developed a nomenclature and a standard for classification of functions and rooms in hospital. This standard is now being implemented in all hospitals. The model will allow the planners to mark each room with criteria that identify important features that are drivers for energy demand, such as 24/7 production, special equipment, demand for quality of air, etc. By linking the room and the function to the physical building, this could be a tool for optimising functional demands, technical solutions and the investment and operational costs of the hospital. The room database of the pilot project will be mapped into the structure of the classification system and the findings will be used to control the energy demand calculation in the project.

In November 2011, a second consultation workshop will take place. This workshop will focus on the procurement process and follow up the discussions held at the previous workshop in May 2011 when an unmet need for alternative, innovative lighting systems was identified. Drawing on the experience from other LCB-HEALTHCARE pilot projects and the wider network, the workshop will explore how innovation procurement techniques could help bring forward alternative solutions. The workshop will also consider how this approach might also be applied to the procurement of medical equipment.

Results

The project has identified important weaknesses in the basic information used by the decision makers in the early stages of projects when goals and priorities are being established, and later in the design phase when details are determined.

The project is now in a position to influence the structure and content of national guidelines for hospital planning:

- Implement changes that can counter some weaknesses.
- Establish a foundation for comparing projects.
- Learn from experiences and adopting innovation procurement methods.

“Even though these are national standards for energy demand in buildings, the methodology can be transferred to other countries in Europe.”

Asmund Myrbostad Pilot Project Coordinator, Norway

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